CONTINUED FROM PART I

ANNUAL GROUND WATER MONITORING REPORT

MUSKOGEE INACTIVE CCR IMPOUNDMENT

ATTACHMENT 2

Field Forms and Analytical Reports

ATTACHMENT 3

Multi-Purpose Well Completion and Plugging Report



Attachment 2 Field Forms and Analytical Reports

Sampling Log

Weather Conditions and Temperature	Clear 650)			
Names: Tad Dow Miche	eal Jordan Dean's Harrow			
G 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10.5			
Sample Time: 12:06				
Purge Volume: 5, 4 sal	Field pH: 7.03 (12:2:			
Comments:	Samuel Construction Constructio			
Groundwater Level (ft below TOC)::	5.5"			
Sample Time: /2:40				
	Fleld pH: 7.07 (12:46)			
Comments:	1101 110			
Groundwater Level (ft below TOC):: 9'				
Sample Time: 12:57				
Purge Volume: 7.14 201	Field pH: 6.93 (13:0			
Comments:				
Groundwater Level (ft below TOC)::	1.5'			
Sample Time: 13:30	-			
Purge Volume: 5.61 oal	Field pH: 6.79 (13:35			
Comments:				
Groundwater Level (ft below TOC)::	0.5'			
	Field pH: 6.9/ (13:55			
	Names: Tad Down Michae Groundwater Level (ft below TOC): Sample Time: 12:06 Purge Volume: 5, 4 gad Comments: Groundwater Level (ft below TOC):: Sample Time: 12:40 Purge Volume: 7,45 gad Comments: Groundwater Level (ft below TOC):: Sample Time: 12:57 Purge Volume: 7,44 gad Comments: Groundwater Level (ft below TOC):: Sample Time: 13:30 Purge Volume: 5,61 gad Comments:			

Additional Notes:

Dea to Sacility sitting in 100 yr flood plain and located inside of river oxbow, the direction of Slow of the groundwater is greatly influenced by the river.

Groundwater Velocity

Date: 3/14/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μ m/sec = 0.00007013'/sec = 7.013E-05) I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - MW2:						
dh =	2	M	W1 =	509	10.5	498.5
dl =	1053.2	M	N2 =	502	5.5	496.5
i = dh/dl =	0.001899					
V = Ki/n =	4.592E-07	ft/sec = 0.13	9972 μm/se	С		
MW1 - MW3:						
dh =	2.5	M	V1 =	509 1	10.5	498.5
di =	1390	M\	V3 =	505	9	496
I = dh/dI =	0.0017986					
14 101 for				_		
V = KI/N =	4.349E-07	n/sec = 0.3.	3257 µm/se	С		
MW5 - MW4:						
dh =	0	MV	V5 =	506 1	10.5	495.5
di =	326.21	MV	V4 =	507 1	1.5	495.5
= dh/d =	0					
V = KI/n =	O f	i/ser=	O μm/sec			
MW5 - MW3:						
dh =	-0.5	MV	/5 = !	506 1	0.5	195.5
dl =	773.75	MV	/3 = !	505	9	496
I = dh/dl =	-0.0006462					
V = VI/r =	-1.563E-07 f	Jene - DO	1763 µm/sec			
A - MAU -	-1.3031-0/	Nacr0'0	typo mulysec			

3-14-18	
161-Mul2-Mu3;	
son-a	DOF: 146.5° Clockwise from Time North SEbS
_	1/1
111-MW3-NW4:	
161-MJ-MJ-MJ. Hai and start and the MSM 161-MJ-MJ-MJ. Hai and start from the Moth SDW	DOF: 245 42 Clackwise from True Morth WOW
1611-142-144:_	HG: 0.00938 Ft/Ft
And commentered to	DOF: 192.8° Clockwise from True North Sow &
164- AL18- MUS:	4G: 0.00923 Ft/ft
	DOF: 199.48 · Clockwise Gom True North SSW
§ 1	
WI-MUS-MUK:	
MI-MUS-MUS: Ha: 0.00938 FH/St DOE: 1928° Clackwise From Town Hooks WSW MI-MUS-MUS: Ha: 0.00938 FH/St DOE: 1928° Clackwise From Town Hooks SOW & MI-MUS-MUS: Ha: 0.00938 FH/St DOE: 199.48° Clackwise From Town Hooks SOW & MI-MUS-MUS: Ha: 0.00582 SH/St DOE: 48.25° Clackwise From Town Hooks WBW DI-MUS-MUS: Ha: 0.00582 SH/St DOE: 48.25° Clackwise From Town Hooks MBW DI-MUS-MUS: Ha: 0.00614 SH/St DOE: 48.25° Clackwise From Town Hooks MBW DI-MUS-MUS: Ha: 0.00614 SH/St DOE: 48.25° Clackwise From Town Hooks MBW DI-MUS-MUS: Ha: 0.00618 SH/St DOE: 48.25° Clackwise From Town Hooks SDW MI-MUS-MUS: Ha: 0.00438 SH/St DOE: 187.82° Clackwise From Town Macks SDW	
A B B B B B B B B B B B B B B B B B B B	16:00 00 502 CH/CH
W1-AUS-7041	DOF: 48.25° Clockester From True Aboth NE
	Section of the sectio
DE-MUS-MUSE	146: 0.00614 St/St
The state of the s	DOF: 44.98° clockwise from True North NE
4	
p estable	90F: 0
95-AU2-AU1:	HG: 0.00438 H/H
out and subsequent	Dof: 187.82° Clockwise from True North 500 4 1111
25-MO4-MUS.	HG: 0 84/84
1	06: 0°



April 05, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National
Environmental
Laboratory
Accreditation
Program
Kansas CERT # R-20219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: March 15, 2018 Time: 9:54 sample temp upon arrival at lab = 2°C - On Ice

Matrix: Water

Lab Log Numbers: AC15030-04 AC15030-02 AC15030-03 AC15030-04

AC15030-05

Work Order: AC15030

Report # AC15030-0405180841

EPA Lab ID#'s: Stillwater OK00992 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Cartification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference: 40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes

EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126482

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 12:06

Lab Log# AC15030-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	1.68 mg/L		0.500	03/20/18 07:45 BM	03/20/18 17:38 BM
Phyoride EPA 300.0	Fluoride	0.26 mg/L		0.10	03/20/18 07:45 BM	03/20/18 17:38 BM
Sulfate EPA 300,0	Sulfete	22.0 mg/L		5.00	03/20/18 07:45 BM	03/20/18 17:59 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	424 mg/L		25.0	03/15/18 14:10 @AG	03/16/18 15:45 @AG
Antimony (Sb) EPA 6020A	Antimusy	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:05 PD
Arsenic (As) EPA 6020A	Argenic	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:05 PD
Barium (Ba) EPA 6020A	Barium	0.184 mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:05 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:05 PD
Boron (B) EPA 6020A	Boron	0.093 mg/L		0.025	03/20/18 15:30 RW	93/21/18 16:05 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:05 PD
Calcium (Ca) BPA 6010B	Calcium	116 mg/L		0,20	03/20/18 15:30 RW	03/22/18 13:39 LF
Chromium (Cr) EPA 6020A	Chromina	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 16:05 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 16:05 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L		9.005	03/20/18 15:30 RW	03/21/18 16:05 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	03/20/18 15:30 PD	03/22/18 15:23 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L		0,050	03/20/18 14:15 RW	03/21/18 13:52 RW
Molybdenum (Me) EPA 6020A	Malybdemm	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:05 PD
lelenium (Se) EPA 6020A	Selenigrp	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:05 PD
Dallium (TI) EPA 6020A	Theliforn	0.001 mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:05 PD

Sample: MW-2 MK-126483

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 12:38

Lab Log# AC15030-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chlaride	39.2 mg/L		5.00	03/20/18 07:45 BM	03/20/18 18:41 BM
Fluoride EPA 300.0	Fluoride	0.25 mg/L		0.10	03/20/18 07:45 BM	03/29/18 18:20 BM
Subline EPA 300.0	Stalificte	99.3 mg/L		5.00	03/20/18 07:45 BM	03/20/18 18:41 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	544 mg/L		25,0	03/15/18 14:10 @AG	03/16/18 15:45 @AC
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:31 PD
Arsenic (As) EPA 6020A	Arsenic	BPQL mg/L		0.005	03/20/18 15;30 RW	03/21/18 16:31 PD
Barium (Ba) EPA 6020A	Barium	0,235 mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:31 PD
Berylihm (Be) EPA 6020A	Beryllium	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:31 PD
Вогод (В) НРА 6020А	Вотоп	0.238 mg/L		9,025	03/20/18 15:30 RW	03/21/18 16:31 PD
Cedmium (Cd) EPA 6020A	Cacheiene	BPQL mg/L		100.0	03/20/18 15:30 RW	03/21/18 16:31 PD
Calcium (Ca) EPA 6010B	Calcium	127 mg/L		0.20	03/20/18 15:30 RW	03/22/18 13:42 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 16:31 PD
Cobalt (Co) EPA 6029A	Cobalt	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 16:31 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:31 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	03/20/18 15:30 PD	03/22/18 15:28 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L		0.050	03/20/18 14:15 RW	03/21/18 13:55 RW

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 12:38

Lab Log# AC15030-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Molybdenum (Mn) EPA 6020A	Molybdenum	BPQL mg/L		0.005	03/20/18 15;30 RW	03/21/18 16:31 PD
Selenium (So) EPA 6020A	Selenium	BPQL mg/L		0.005	09/20/18 15:30 RW	03/21/18 16:31 PD
Thallium (TI) EPA 6020A	Thallism	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:31 PD

Sample: MW-3 MK-126484

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 12:57

Lab Leg# AC15030-03

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Chluride EPA 300,0	Chloride	166 mg/L	12.5	03/20/18 07:45 BM	03/20/18 20:48 BM
Fluoride EPA 300.0	Fluoride	0.19 mg/L	0.10	03/20/18 07:45 BM	03/20/18 20:26 RM
Sulfate EPA 300.0	Sulfate	200 mg/L	12.5	03/20/18 07:45 BM	03/20/18 20:48 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1010 mg/L	25,0	03/15/18 14:10 @AO	03/16/18 15:45 @AG
Antimuny (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:42 PD
Arsenic (As) EPA 6020A	Argenic	BPQL mg/L	0,005	03/20/18 14:30 RW	03/21/18 16:42 PD
Barium (Ba) EPA 6020A	Barium	0.311 mg/l.	0.005	03/20/18 15:30 RW	03/21/18 16:42 PD
Beryllinm (Be) EPA 6020A	Beryllium	BPQL mg/L	0.001	03/20/18 15:30 RW	03/21/18 16:42 PD
Beron (B) EPA 6020A	Boron	0.069 mg/L	0.025	03/20/18 15:30 RW	03/21/18 16;42 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	03/20/18 15:39 RW	03/21/18 16:42 PD
Calcium (Ca) EPA 5010B	Calcium	238 mg/L	0.50	03/20/18 15:30 RW	03/22/18 19:44 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	9.010	03/20/18 15:30 RW	03/21/18 16:42 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	9.010	03/20/18 15:30 RW	03/21/18 16:42 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:42 PD
Lithium (Li) EPA 6020A	Lithtum	BPQL mg/L	0.050	03/20/18 15:30 PD	03/22/18 15:32 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	03/20/18 14:15 RW	03/21/18 13:59 RW
Molybdenum (Mo) EPA 6020A	Molybdenum	0.006 mg/L	0,005	03/20/18 15:30 RW	03/21/18 16:42 PD
Selenium (So) EPA 6020A	Selenium	BPQL mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:42 PD
Thellium (TI) EPA 6020A	Thallium	BPQL mg/L	0.001	03/20/18 15:30 RW	03/21/18 16:42 PD

Sample: MW-4 MK126485

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

3/14/18 13:30

Lab Log# AC15030-04

Method/Parameter	Tent	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 308.0	Chloride	139 mg/L		12,5	03/20/18 07:45 BM	03/20/18 21:30 BM
Fluoride EPA 300.0	Fluoride	0.18 mg/L		0.10	03/20/18 07:45 BM	03/20/18 21:09 BM
Sulfate EPA 300.0	Sulfate	347 mg/L		12,5	03/20/18 07:45 BM	03/20/18 21:30 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1300 mg/L		25.0	03/15/18 14:10 @AG	03/16/18 15:45 @AG
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0,005	03/20/18 L5:30 RW	03/21/18 16:53 PD
Arsenic (As) EPA 6020A	Arsenic	BPQL mg/L		0,005	03/20/18 15:30 RW	03/21/18 16:S3 PD
Barium (Ba) EPA 6920A	Barinm	0.244 mg/L		0.005	03/20/18 15:30 RW	03/21/18 16:53 PD
Beryllium (Be) EPA 6020A	Baryllium	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:53 PD
Boron (B) EPA 6020A	Boron	0,077 mg/L		0.025	03/20/18 15:30 RW	03/21/18 16:53 PD
Cadmium (Cd) BPA 6020A	Cadmium	BPQL mg/L		0.001	03/20/18 15:30 RW	03/21/18 16:53 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 13:30

Lab Log# AC15030-04

Method/Parameter	Test	Result Notes	PQL#	Prep Infe	Analysis Info
Calcium (Ca) EPA 6010B	Calcium	331 mg/L	0.50	03/20/18 15:30 RW	03/22/18 13:47 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	03/20/18 15:30 RW	03/21/18 16:53 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	03/20/18 15:30 RW	03/21/18 16:53 PD
Lesd (Pb) EPA 6020A	Load	BPQL mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:53 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	93/20/18 15:30 PD	03/22/18 15:36 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	03/20/18 14:15 RW	03/21/18 I4:03 RW
Molybdenum (Mo) EPA 6020A	Molybdomm	0,007 mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:53 PD
Selenium (Se) BPA 6020A	Selenium	BPQL mg/L	0.005	03/20/18 15:30 RW	03/21/18 16:53 PD
Thellium (TI) EPA 6020A	Thallium	BPQL mg/L	0.001	03/20/18 15:30 RW	03/21/18 16:53 PD

Sample: MW-5 MK-126486

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

3/14/18 13:47

Lab Log# AC15030-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 360,0	Chloride	29.9 mg/L		5.00	03/20/18 07:45 BM	03/20/18 22:12 BM
Fluoride EPA 300.0	Fluoride	0.18 mg/L		0.10	03/20/18 07:45 BM	03/20/18 22-51 BM
Sulfate EPA 300.0	Sulfato	159 mg/L		5.00	03/20/18 07:45 BM	63/20/16 22:12 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	826 mg/L		25.0	03/15/18 14:10 @AG	03/16/18 15:45 @AG
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	03/20/18 15:30 RW	03/23/18 17:04 PD
Arsenic (As) EPA 6020A	Arsenic	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 17:04 PD
Barium (Ba) EPA 6020A	Bariana	0.147 mg/L		0.005	03/20/18 15:30 RW	03/21/18 17:94 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0,001	03/20/18 I5:30 RW	03/21/18 17:04 PD
Boron (B) EPA 6020A	Boron	0.274 mg/L		0.025	03/20/18 15:30 RW	03/21/18 17:04 PD
Cadmium (Cd) EPA 6020A	Cedmium	BPQL mg/L		0.001	03/20/18 15:30 RW	09/21/18 17:04 PD
Calcium (Ca) EPA 6010B	Calcium	202 mg/L		0.50	03/20/18 15:30 RW	03/22/18 13:50 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 17:04 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	03/20/18 15:30 RW	03/21/18 17:04 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 17:04 PD
Athium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	03/20/18 15:30 PD	03/22/18 15:41 LF
Mercury (Hg) EPA 7470A	Менешу	BPQL ug/L		0.050	03/20/18 14:15 RW	03/21/18 14:08 RW
Aolybdenum (Mo) EPA 6020A	Malybdenum	BPQL mg/L		0.005	03/20/18 15:30 RW	03/21/18 17:04 PD
elenium (Se) EPA 6020A	Selenium	BPQL mg/L		0.005		03/21/18 17:04 PD
hallium (TI) EPA 6020A	Thalling	BPQL mg/L		0.001		03/21/18 17:04 PD

Notes and Definitions

#58	Analyte recoveries are outside of acceptance limits,
#52	Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
#44	RPD is outside of acceptance limits. This failure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit.
	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/natrix effects
BPQL	Belew Practical Quantitation Limit (if applicable).

The "Prop Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Banch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Quality Control Data

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18C2002-BLK1	Chloride EPA 300,0	Chloride	BPQL mg/L	0,500	
18C2002-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
18C2002-BLK1	Sulfate EPA 300.0	Sulfate	BPQL mg/L	0.500	
18C1518-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25.0	
18C2925-BLK1	Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	
18C2025-BLK1	Arsenie (As) EPA 6020A	Arsenic	BPQL mg/L	0.005	
18C2025-BLK1	Burium (Ba) EPA 6020A	Bariam	BPQL mg/L	0.005	
18C2025-BLK1	Beryllium (Be) HPA 6020A	Beryllium	BPQL mg/L	0.001	
18C2025-BLK1	Boron (B) EPA 6020A	Borm	BPQL mg/L	0.025	
18C2025-DLK1	Cadmium (Cd) BPA 6020A	Cadmium	BPQL mg/L	0.001	
18C2029-BLK1	Calcium (Ca) EPA 6010B	Culcium	BPQL mg/L	0.10	
8C2025-BLK1	Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	
18C2025-BLK1	Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	
ISC2025-BLK1	Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	
8C2143-BLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
8C2051-BLK1	Mercary (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	-
8C2025-BLK1	Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L	0.005	
\$C2025-BLK1	Solozium (Se) EPA 6020A	Selenium.	BPQL mg/L	0.005	
8C2025-BLR1	Thellium (TI) EPA 6020A	Thellium	BPQL mg/L	0.001	

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Bags
18C1518-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	952	1000	mg/L	95	E0 - 120	
18C2902-B91	Chloride EPA 300.0	Chloride	3.24	3.000	reg/L	108	90 - 110	
18C2002-BS1	Fluoride EPA 300.0	Fluoride	1.98	2.000	mg/L	99	90 - 110	
18C2002-BS1	Sulface EPA 300.0	Sulfate	15.8	15.90	mg/L	105	90 - 110	
18C2025-BS1	Antimony (Sb) EPA 6020A	Antimony	0.102	0.1008	mg/L	102	85 - 115	
18C2025-BS I	Arsenic (As) EPA 6020A	Arsonic	0.100	0.1000	mg/L	100	85 - 115	
18C2025-BS1	Barium (Ba) EPA 6020A	Bartum	0,101	0.1000	mg/L	101	R5 - 115	
1BC2025-BS1	Beryllium (Be) EPA 6020A	Berylliam	0.099	0.1000	mg/L	99	85-115	
18C2025-BS1	Boron (B) EPA 6020A	Boron	0.100	0.1000	mg/L	100	85 - 115	
18C2025-BS1	Cadmium (Cd) BPA 6020A	Cadmium	0,099	0,1000	mg/l.	99	R5 - 115	
18C2025-B\$1	Chromium (Cr) EPA 6020A	Chronium	0.102	0.1000	mg/L	102	85 - 115	
8C2025-BS1	Cobalt (Co) EPA 6020A	Cobalt	0.103	0001.0	mg/L	103	85 - 115	
18C2025-BS1	Lead (Pb) EPA 6020A	Lead	0.100	0.1000	mg/L	100	85 - 115	
RC2025-B\$1	Molybdenum (Mo) EPA 6020A	Molybdonum	0,101	0,1000	mg/L	101	85 - 115	
18C2025-B91	Selenium (Se) EPA 6020A	Selenium	001,0	0,1000	mg/L	100	85 - 115	
8C2025-BS1	Thellium (TI) EPA 6020A	Thallium	0.099	0.1000	mg/L	99	85 - 115	
8C2029-BS1	Calcium (Ca) EPA 6010B	Calcium	2,01	2.000	mg/L	108	85 - 115	
8C2051-BS1	Mercury (Hg) EPA 7470A	Mercury	1.5	1.667	ug/L	91	85 - 115	
8C2143-B\$1	Lithium (Li) EPA 6020A	Lithipm	0.997	1.000	mg/L	100	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Quality Control Data

Matrix Spike Data

QC Lab#	Test Group	Test Name	Sample Sample	Sample Result	Units	Spike Result	Spike Level	% Rec.	Acceptance Limits	Flaga
18C2025-MS1	Antimony (Sb) EPA 6020A	Antimony	AC15030-01	BPQL	mg/L	1.01	1,000	101	85 - 115	
18C2025-MS1	Arsenic (As) EPA 6020A	Arsenic	ACI5030-01	BPQL	mg/L	0.982	1.000	98	85 - 115	
18C2025-MS1	Barium (Ba) EPA 6020A	Barium	AC15030-01	0.184	mg/L	1.19	1.000	100	85 - 115	
18C2025-MS1	Beryllium (Be) EPA 6020A	Beryllium	AC15030-01	BPQL	mg/L	0.991	1.000	99	85-115	
18C2025-MS1	Boron (B) EPA 6020A	Boron	AC15030-01	0.093	mg/L	1.13	1.000	102	85 - 115	
18C2025-MS1	Cadmium (Cd) EPA 6020A	Cadmium	AC15030-01	BPQL	mg/L	0.972	1.000	97	85-115	
(AC2029-MS)	Calcium (Ca) EPA 6010B	Calcium	AC15030-02	127	mg/L	155	20.00	142	85 - 115	#52
18C2025-MS1	Chromium (Cr) EPA 6020A	Chromium	AC15030-01	BPQL	mg/L	0.984	1.000	98	85 - 115	
18C2025-MS1	Cobalt (Co) EPA 6020A	Cobalt	AC15030-01	BPQL	mg/L	0.998	1.000	100	85 - L15	
18C2025-MS1	Lead (Pb) EPA 6020A	Lead	AC15030-03	BPQL	mg/L	1.00	1.000	100	85 - 115	
18C2143-M\$1	Lithium (Li) EPA 6020A	Lithium	AC15030-01	BPQL	mg/L	<0.500	10.00		85 - 115	#58
18C2051-MS1	Mercury (Fig) EPA 7470A	Mercary	AC15030-01	BPQL	ug/L	1.4	1.667	81	75 - 125	
18C2025-MS1	Mnlybdenum (Mo) EPA 6020A	Molybdenum	AC15030-01	BPQL	mg/L	1.00	1,000	100	85 - 115	
18C2025-MS1	Selenium (Se) EPA 6020A	Selenium	AC15030-01	BPQL	mg/L	0.963	1.000	96	85 - 115	
8C2025-MS1	Theilium (TI) EPA 6020A	Thallisam	AC15030-01	BPQL	mg/L	0.974	1.000	97	85-115	

Matrix Spike Duplicate Data

			Sample	Splike	Splice		7%	Rec.	%	RPD	
QC Lab#	Test Group	Test Name	Result	Result	Lovel	Units	Rec.	Limits	RPD	Limit	Flags
18C2025-MSD1	Antimony (Sb) EPA 6020A	Antimony	BPQL	0.993	1,000	mg/L	99	85-115	2	20	
18C2025-MSD1	Arsenic (As) EPA 5020A	Arsenic	BPQL	0,990	1,000	mg/L	99	85-115	0.7	20	
18C2025-MSD1	Barium (Ba) EPA 6020A	Barium	0,184	1.19	1,000	rog/L	100	85-115	0.2	20	
18C2025-MSD1	Beryllium (Be) EPA 6020A	Beryllium	BPQL	1.00	1.000	mg/L	100	85-115	1	20	
18C2025-MSD1	Boron (B) EPA 6020A	Boron	0.093	1.10	1,000	mg/L	101	85-115	0.4	20	
18C2025-MSD1	Cadmium (Cd) EPA 6020A	Cadmium	BPQL	0.976	1,000	mg/L	98	85-115	0.4	20	
18C2029-MSD1	Calcium (Ca) EPA 6010B	Calcium	127	155	20.00	mg/L	142	85-115	0	20	#52
18C2025-MSD1	Chromium (Cr) EPA 6020A	Chromium	BPQL	0.987	1,000	mg/L	99	85-115	0,2	20	
18C2025-MSD1	Cobalt (Co) EPA 6020A	Cobalt	BPQL	0.996	1,000	mg/L	100	85-115	0,2	20	
18C2025-MSD1	Lead (Pb) EPA 6020A	Lead	BPQL	1.01	1,000	mg/L	301	85-115	0.7	20	
18C2143-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQL	11.1	10.00	mg/L	111	85-115		20	#44
18C2051-MSD1	Mercury (Hg) EPA 7470A	Mercury	BPQL	1,6	1.667	ug/L	94	75-125	14	20	
18C2025-MSD1	Molybdoman (Mo) EPA 6020A	Molybdenum	BPQL	1.00	1,000	mg/L	100	85-115	0.1	20	
8C2025-MSD1	Selenium (Se) EPA 6020A	Selenium.	BPQL	0,946	1,000	mg/L	95	85-115	2	20	
18C2025-MSD1	Thallium (TI) EPA 6020A	Thallium	BPQL	0.997	1.000	mg/L	100	85-115	2	20	

12036 N. Pennsylvania Phome: (405) 751-3132 Oklabema City, OK 73120 Fax: (405) 751-3108 hitlas -- Hazardous samples will be returned to citent or will be disposed of for a fre---Daje Time (Worlding Days) 954 -- All samples are scheduled to be disposed of in-4 weeks of receipt at Accurate. -- All Glass containers provided by Accurate Labs have Lefton timed lids --3.75.15 (405) 553-4063 Date , Three Datte/Time Field Instrument Calibration -Due Date RUSH Request (if available) Bid # -PO#-Pax # XX 対 XX Final Read. Samirle Method: **SQL** Rec'd APVendor Invoices@oge.com Boron, Calcium, Chloride, Fluoride, RUSH XX × × × W. C. Wel Standards Sample Preserv. & Container Analysis Requested Mail laydice To: Email invoice to: # of (918) 663-5400 Meter Total (pH, Temp, Chlorine, ...) (note analysis & units) Y (353-4079) Company: Okdahoma Gas & Electric Field Results _ CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone: Fax: Received at Lab By (g) Chain of Custody Address Phone # DW = Divisiting nation of the Statementer; Size = Sourger; CWUDE-BE Grandwater under three followers of Plancy Strain GWUDE-BE GRANDWATER (FIRE A 300). Received Br. Boron (EPA 200.8), Calcium (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), 6558 B. 40th Street Tules, OK 74074 MK- 12648% MK- 126489 WK-126484 Signature: MIK-126 U.E. Oklahoma PWS ID# Client I.D. / Sample Location DEQ / EPA Location Code MK- 2.4 Datoffine 5-15-48 / 095-4 Datoffine ğ (405) 372-5300 (405) 372-5396 Cardification by Company Official: I hereby confrish that the shows sampling occurred during a period such that the sample(s) sharp representative of a repeal quently due to the above the the _ Eat (405) 553-4063 MW-2 MW-3 MW-5 MW-1 MW-4 30 Yes or (DMR, PWS, Phone: Pax: (C) Grab (G) Mail Report To Smiths CA (20 oge. com, downa @oge. com Turbidity Ü 0 0 0 O あるは Project Name-Client Name * Complete Entire COC to be in Compliance* Sulfate (EPA 300), TDS (SM 2540 C) 505 South Lowry Street Stiffwater, OK 74074 Matrix Source (Refer B MD GW B ₽₩ ь mg/L Compliance Reporting? 13:30 1.106 13147 12:38 Time Sample 1 157 Taken 3 5501 Three Forks Road Ft. Gibson, OK 74434 Raw Alkalinity Phone #: (405) 553-4079 Email: (TOC Raw)= 3/14/18 3/14/18 3/14/18 3/14/18 3/14/18 Date Sample Taken www.accuratefabs.com Reporting Requirements (Standard 10-15 working days) Accurate Entreportation Labor 00 C Relaid to Log-In Prides By (800) 516-5227 D Relinquished to Leb By Retinguished By: S 5030 S 103 707 9 Accarate Work Order * 70 Mistrix Cedex On-Site Info Sampled By: Address:

Sampling Log

Sample ID	Date: 4-03-18	
Sample 10	Weather Conditions and Temperature:	ouch w/latermittent rain
ield Samplers		, Jesmy Blagott, Michael
	Groundwater Level (ft below TOC): 8, 7	5' D:19'
MW01	Sample Time: 10:59	The state of the s
	Purge Volume: 8.16 gal	Field pH: 7.09 (11:12)
	Groundwater Level (ft below TOC):: 3	TO: 18'
MW02	Sample Time: //:20	The second of th
141 44 67	Perge Volume: 7.45 gal	Field pH: 6.99 (11:33.)
	Conomeatu:	
	Groundwater Level (ft below TOC)::	10:21.5'
MW03	Sample Time: //:42	and the second
	Purge Vehime: 7. 9 gal	Fleid pH: 6.86 (11:53)
	Comments:	
	Groundwater Level (ft below TOC):: 9'	
MW04	Sample Time: 12:04	
74¥ 14 0-4	Purge Volume: 6.12 gol	Fleid pH: 6.72 (12114)
	Comments:	- Aidheann
	Groundwater Level (ft below TOC)::	
MW055	Sample Time: 12:24	
	Purge Volume: 6.12 gal	Field pH: 6.82 (12:32)
	Comments:	B-M market

Additional Notes:

Groundwater Velocity

Date: 4/03/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 µm/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - MV	v2:				
dh =	12	MW1 =	509	10	499
dl =	1053.2	MW2 =	502	15	487
i = dh/dl =	0.011393847				
		-2-4			
V = KI/n =	2.75535E-06 ft/sec	= 0.83983 µ	m/sec		
MW1 - MW	/3:				
dh =	9.5	MW1 =	509	10	499
d1 =	1390	MW3 =	505	15.5	489.5
I = dh/di =	0.006834532				
V = Ki/n =	1.65278E-06 ft/sec	= 0.503767 μι	m/sec		
MW5 - MW	'4 :				
dh ≃	-1	MW5 =	506	12	494
dl =	326.21	MW4 =	507	12	495
= dh/d =	-0.00306551				
					,
V = KI/n =	-7.41325E-07 ft/sec	-0.2∡596 μr	n/sec		
MW5 - MW	3:				
dh =	4.5	MW5 =	506	12	494
dl =	773.75	MW3 =	505	15.5	489.5
i = dh/di =	0.005815832				
V = KI/n =	1.40643E-06 ft/sec =	0.428679 μπ	n/sec		

4-3-18	Attacriment 2 . Gloundwater Flow Direction Field Notes
M-401-403	HG: 0.00805 fHst
	DOF: 139.64° Clocker'se from Taxe North
UI-MUR-MUH	HG: 0.00402 CHCH
hirinadams + 6	DOF: 173.37° clockwise from True North
W-MW2-MW53	HG: 0.00369 Ct/ft
-	Dof: 183.47 clockwise from True Aboth
DEMOS-MUY	HG: 0.00224 Ct/Ct
1	Dof: 308.67° Clockwise from Trac North
WI-MW3-MW57	AG: 0.00134 ft/ft
ermore l'han	Dof: 302.82° clockerise from Trace North
101-404-408:	HG: 0 St/St
1	Dof: 0°
4.4	HG: 0.00768 4/4
2.4	Dof: 42.75° clockwise from True North
UZ-MUS-MUS	HG! 0.00785 SH/SH
The second	DOF: 41.58° clockerise from True North
	HG: 0.00958 St/H
	DOF: 39.41° Clockesise from True North
יין אנאריאטריין	HG: Nan St/St
problems	Dof: 0°
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And Specific trap and appropriate to	4
distribution of the second	



April 13, 2018

Client: OG&B - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



National Environmental Laboratory Accreditation Program Kanaa CERT # E-18219

Sample Project Name: C

CCR Groundwater Monitoring

Date Samples Received:

April 04, 2018

Time: 11:45

sample temp upon arrival at lab = 3°C - On Ice

Matrix:

Water

Lab Log Numbers:

AD04095-01 AD04095-05 AD04095-02

AD04095-03

AD04095-04

Work Order:

AD04095

Report #

AD04095-0413180943

EPA Lab ID#s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater WasteWater, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes BPA-600/4-79-020. March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Enviornmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-1 MK-126503

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/3/18 10:59

Lab Log# AD04095-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Azatysis Info
Chloride EPA 300.0	Chloride	1.21 mg/L		0.500	04/05/18 07:44 BM	04/05/18 22:07 BM
Fluoride EPA 300.0	Fluoride	0.19 mg/L		0.10	04/05/18 07:44 BM	04/05/18 22:07 BM
Sulfate EPA 300.0	Sulfate	19.7 mg/L		0.500	04/05/18 07:44 BM	04/05/18 22:07 BM
Total Dissolved Solida SM2540 C	Total Dissolved Solids	392 mg/L		25.0	04/09/18 09:93 @MH	04/10/18 15:00 @MH
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0,905	04/05/18 16:00 PD	04/06/18 20:28 PD
Assectio (As) EPA 6020A	Arsenic	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:28 PD
Barium (Be) EPA 6020A	Barium	0.180 mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:28 PD
Beryllium (Be) EPA 6020A	Baryllium	BFQL mg/L		8.001	04/05/18 16:00 PD	04/09/18 16:46 PD
Buron (B) EPA 6020A	Beron	0.074 mg/L		0.025	04/05/18 16:00 PD	04/06/18 20:28 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L		0.001	04/05/18 16:00 PD	04/06/18 20:28 PD
Calcium (Ca) EPA 60 10B	Calcium	112 mg/L		0.50	04/05/18 16:00 PD	04/06/18 14:29 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:28 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:28 PD
Lead (Pb) EPA 6020A	Load	BPQL mg/L		0.005	94/05/18 16:00 PD	04/06/18 20:28 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	04/85/18 16;00 PD	04/10/18 14:44 LF
Menusy (Hg) EPA 7470A	Morcury	BPQL ng/L		0,050	04/10/18 08:30 RW	04/10/18 15:15 RW
Molybdenum (Mo) EPA 6020A	Molybdenus	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:28 PD
Selenium (Se) FIPA 6920A	Selentum	BPQL mg/L		0.005	04/03/18 16:00 PD	04/09/18 16:46 PD
Thellium (TI) EPA 6020A	Thallium	BPQL mg/L		0.001	04/05/18 16:00 PD	04/09/18 16:46 PD

Sample: MW-2 MK-126504

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

4/3/18 11:20

Lab Log# AD04095-02

Method/Parameter	Test	Rem	it	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	31.6	mg/L		5.00	04/05/18 07:44 BM	04/05/18 23:14 BM
Fluoride EPA 300.0	Fluoride	0.22	mg/L		0.10	04/05/18 07:44 BM	04/05/18 22:52 BM
Sulfate EPA 300.0	Salfirte	88.7	mg/L		5.00	04/05/18 07:44 BM	04/05/18 23:14 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	522	mg/L		25.0	04/09/18 09:03 @MH	04/10/18 15:00 @MH
Antimony (Sb) BPA 6020A	Antimony	BPQL	mg/L		0,005	04/05/18 16;00 PD	04/06/18 20:34 PD
Arsenic (As) EPA 6020A	Atsenie	BPQL	mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:34 PD
Barium (Ba) EPA 6020A	Barino	0.231	mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:34 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL	mg/l.		0.001	04/05/18 16:00 PD	04/09/18 16:51 PD
Boron (B) EPA 6020A	Boron	0,216	mg/L		0.025	94/05/18 16:00 PD	04/06/18 20:34 PD
Cedmium (Cd) EPA 6020A	Cadmium	BPQL	mg/L		100.0	04/05/18 16:00 PD	04/06/18 20:34 PD
Calcium (Ca) EPA 6010B	Calcium	124	mg/L		0.50	04/05/18 16:00 PD	04/06/18 14:32 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL	mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:34 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL	mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:34 PD
Lend (Pb) EPA 6020A	Lead	BPQL	mg/L		0.003	04/05/18 16:00 PD	04/06/18 20:34 PD
Lithium (Li) EPA 6020A	Lithium	BPQL	mg/L		0.050	04/05/18 16:00 PD	04/10/18 14:48 LF
Mercury (Hg) EPA 7470A	Moroury	BPQL	ug/L		0.050	04/10/18 08:30 RW	04/10/18 15:26 RW

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Sample:

Location Code:

PWSLD#:

Collection Type: Grab

Sample Time:

4/3/18 11:20

Lab Log# AD04095-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Molybdonum (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:34 PD
Selenium (Se) EPA-6020A	Selenium	BPQL mg/L		0.005	04/05/18 16:00 PD	04/09/18 16:51 PD
Thullium (T1) EPA 6020A	Thellium	BPQL mg/L		0.001	04/05/18 16:00 PD	04/09/18 16:51 FD

Sample: MW-3 MK-126505

Location Code;

PWSID#;

Collection Type: Grab

Sample Time:

4/3/18 11:42

Lab Log# AD04095-03

Method/Parameter	Test	Result No.	ies PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	135 mg/L	12.5	04/05/18 07:44 BM	04/05/18 23:59 BM
Fluoride EPA 300.0	Fluorida	0.15 mg/L	0,10	04/05/18 07:44 RM	04/05/18 23:37 BM
Sulfate EPA 300.0	Sulfiete	185 mg/L	12.5	04/05/18 97:44 BM	04/05/18 23:59 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	976 mg/L	25.0	04/09/18 09:03 @MH	04/10/18 15:00 @MI
Antimony (Sb) EPA 6020A	Antimony	SPQL mg/l	8,005	04/05/18 16:00 PD	04/06/18 20:39 PD
Arsenic (As) EPA 6020A	Argenic	0,009 ing/L	0.005	04/05/18 16:00 PD	04/09/18 17:02 PD
Barium (Ba) EPA 6020A	Berian	0.346 mg/t.	0.005	04/05/18 16:00 PD	04/06/18 20:39 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/l.	100.0	04/05/18 16:00 PD	04/09/18 17:02 PD
Boron (B) EPA 6020A	Boros	fi 01: mg/L	0,025	04/05/18 16:00 PD	04/06/18 20:39 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQI mg/l.	0,001	04/05/18 16:00 PD	04/06/18 20:39 PD
Calcium (Ca) EPA 6010B	Calcium	238 mg/l	0,50	04/05/18 16:00 PD	04/06/18 14:35 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	04/05/18 16:00 PD	04/06/18 20:39 PD
Cobast (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	04/05/18 16:00 PD	04/96/18 20:39 PD
cad (Pb) EPA 6020A	Lead	BPQL mg1.	0.005	04/05/18 [6:00 PD	04/06/18 20:39 PD
Lithium (Li) EPA 6020A	Lithium	BPOL mg/L	0.050	04/05/18 16:00 PD	04/10/18 14:53 LF
deroury (Hg) EPA 7470A	Mereury	BPQL ug/L	0.030	04/10/18 08:30 RW	04/10/18 15:29 RW
Aolybdenum (Mo) EPA 6020A	Molybdenum	BPQI mg/l	0.005	04/05/18 16:00 PD	04/06/18 20:39 PD
elezium (Sr) EPA 6020A	Selenium	BPQ! mg/l	0.005	04/05/18 16:08 PD	04/09/18 17:02 FD
hallium (Ti) EPA 6020A	Thallium	BPQL mg/L	0.001	04/05/18 16:00 PD	04/09/16 17:02 PD

Sample: MW-4 MK-126506

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/3/18 12:04

Lab Log# AD04095-04

Method/Parameter	Test	Result	Notes	PQ1#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	130 mg/L		25,0	04/05/18 07:44 BM	04/05/18 00:44 BM
Fluoride EPA 300.0	Fluoride	0.14 mg/L		0.10	04/05/18 07:44 BM	04/06/18 00:22 BM
Sulfate EPA 300.0	Sulfate	335 mg/L		25,0	04/05/18 97:44 BM	04/06/18 00:44 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1370 mg/L		25.0	04/09/18 09:03 @MIH	04/10/18 15:00 @MH
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:45 PD
Amenic (As) EPA 6020A	Araenic	0.009 mg/L		0.005	04/05/18 16:00 PD	04/09/18 17:29 PD
Barium (Ba) EPA 6020A	Berium	0.245 mg/L		5.005	04/05/18 16:00 PD	04/06/18 20:45 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		9.001	04/05/18 16:00 PD	04/09/18 17:29 PD
Boron (B) EPA 6020A	Boron	0.070 mg/L		0.925	04/05/18 16:00 PD	04/06/18 20:45 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L		0.001	04/05/18 16:00 PD	04/96/18 20:45 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/3/18 12:04

Lab Log# AD04095-04

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Calcium (Ca) EPA 6010B	Calcium	326 mg/L	0.50	04/05/18 16:00 PD	04/06/18 14:97 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	04/05/18 16:00 PD	04/06/18 20:45 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL. mg/L	0.010	04/05/18 16:00 PD	94/96/18 20:45 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	04/05/18 16:00 PD	04/06/18 20:45 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	04/05/16 16:08 PD	04/10/18 14:57 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	04/10/18 08:30 RW	04/10/18 15:33 RW
Mulybdamum (Mo) RPA 6020A	Molybdemun	0.906 mg/L	9.005	04/05/18 16:00 PD	04/06/18 20:45 PD
Selemium (Se) EPA 6020A	Sclenium	BPQL mg/L	6.005	04/05/18 16:00 PD	04/09/18 17:29 PD
Thallium (TI) EPA 6020A	Thellium	BPQL mg/L	0.001	04/05/18 16:00 PD	04/09/18 17:29 PD

Sample: MW-5 MR-126506

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/3/18 12:24

Lab Log# AD04095-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA.300.0	Chlorida	23.0 mg/L		12.5	04/05/18 07:44 BM	04/06/18 01:29 BM
Fluoride EPA 300.0	Fluoride	0.14 mg/L		0.10	94/05/18 07:44 BM	04/06/18 01:07 BM
Sulfate EPA 300.0	Sulfate	145 mg/L		12,5	04/05/18 07:44 BM	04/06/18 01:29 BM
Total Dissolved Solida SM2540 C	Total Dissolved Solids	830 mg/L		25.0	04/09/18 09:03 @MH	04/10/18 15:00 @MH
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:50 PD
Arsenie (As) EPA 6020A	Arsenic	0.006 mg/L		0.005	04/05/18 16:00 PD	04/09/18 17:40 PD
Berium (Ba) EPA 6029A	Barium	0.150 mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:50 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0,001	04/05/18 16:00 PD	04/09/18 17:40 PD
Boron (B) EPA 6020A	Boron	0.240 mg/L		0.025	04/05/18 16:00 PD	04/06/18 20:50 PD
Cadmium (Cd) EPA 6020A	Cedmium	BPQL mg/L		0.001	04/05/18 16:00 PD	94/96/18 20:50 PD
Calcium (Ca) EPA 6010B	Calcium	212 mg/L		0.50	04/05/18 16:00 PD	04/06/18 14:40 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:50 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	04/05/18 16:00 PD	04/06/18 20:50 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L		0.005	04/05/18 16:00 PD	04/06/18 20:50 PD
Lithium (Li) EPA 6020A	Lithian	BPQL mg/L		0.050	94/05/18 16:00 PD	04/10/18 15:01 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L		0.050	04/10/18 08:30 RW	04/10/18 15:37 RW
Molybdomam (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0.065	04/05/18 16:00 PD	04/06/18 20:50 PD
Selemium (Se) EPA 6020A	Selenium	BPQL mg/L		0.005	04/05/18 16:00 PD	04/09/18 17:40 PD
Thallfurn (TI) EPA 6020A	Thallium	BPQL mg/L		0.001	04/05/18 16:00 PD	04/09/18 17:40 PD

Notes and Definitions

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

#52 Analyte recoveries are cutaide of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.

MCL Analyte concentration may exceed Maximum Conteminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for my dilutions or other changes made to the sample to deal with PQL

interferences/matrix effects

Balow Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Banch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax; 405-372-5396

Quality Control Data

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flaga
18D0502-BLK1	Chloride EPA 300.0	Chloride	BPQL mg/L	0,500	
18D0502-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
18D0502-BLK1	Sulfate EPA 300.0	Sulfate	BPQL mg/L	0,500	
18D0922-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25,0	
18D0557-BLK1	Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	
18D0557-BLK1	Arsenic (As) EPA 6020A	Arsenic	BPQL mg/L	0.005	
18D0557-BLK1	Beriom (Be) EPA 6020A	Barium	BPQL mg/L	0.005	
18D0557-BLK1	Beryllium (Be) EPA 6020A	Besyllium	BPQL mg/L	0.001	
18D0557-BLK1	Boron (B) EPA 6020A	Boron	BPQL mg/L	0.025	
18D0557-BLK1	Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	
18D0559-BLK1	Calcium (Ca) EPA 6010B	Calcium	BPQL mg/L	0.10	
8D0557-BLK.I	Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	
18D0557-BLK1	Cobalt (Co) EPA 6020A	Cobelt	BPQL mg/L	0.010	
BD0557-BLK1	Lead (Pb) EPA 6020A	Load	BPQL mg/L	0.005	
8D0558-BLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
8D1024-BLK1	Moroury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	
8D0557-BLK1	Molybdenum (Ma) EPA 6020A	Molybdorum	BPQL mg/L	0.005	
8D0557-BLK1	Selenium (Se) EPA 6020A	Selentura	BPQL mg/L	0,005	
8D0557-BLK1	Thallium (TI) EPA 6020A	Thellium	BPQL mg/L	0.001	

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Res.	Control Limits	Flags
18D0502-BS1	Chloride EPA 300.0	Chloride	2,80	3.000	mg/L	93	90 - 110	
18D0502-B\$1	Fluorido EPA 300,0	Pluoride	1.90	2.090	mg/L	95	90 - 110	
18D0502-BS1	Sulfate EPA 300.0	Sulfitte	14.9	15.90	mg/L	99	90 - 110	
18D0922-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	990	1000	mg/L	99	80 - 120	
18D0557-BS1	Antimony (Sb) EPA 6020A	Astimouy	0.098	0.1000	mg/L	98	85 - 115	
18D0557-BS1	Assendo (As) EPA 6020A	Arsenio	0,087	0.1000	mg/L	87	85 - 115	
18D0557-BS1	Barium (Ba) EPA 6020A	Barium	0.101	0.1000	mg/L	101	85 - 115	
18D0557-BS1	Beryllium (Bc) EPA 6020A	Beryllium	0.091	0,1000	mg/L	91	85 - 115	
18D0357-BS1	Boros (B) EPA 6020A	Boren	0.095	0.1000	mg/L	95	85 - 115	
18D0557-BS1	Cadmium (Cd) EPA 6020A	Cadmium	0.096	0.1000	mg/L	96	85 - 115	
18D0557-BS1	Chromium (Cr) EPA 6020A	Chromium	0.088	0,1000	mg/L	88	85 - 115	
18D0557-BS1	Cobalt (Co) EPA 6020A	Cohalt	0.095	0001.0	mg/L	95	\$5 - 115	
18D0557-BS1	Lead (Pb) EPA 6020A	Lead	0,105	0.1000	mg/L	105	85 - 115	-
18D0557-BS1	Molybdenum (Mo) EPA 6020A	Molybdenum	0.102	8,1000	mg/L	102	85 - 115	
18D0557-BS1	Scienium (So) EPA 6020A	Selenium	0,086	0,1000	mg/L	86	85 - 115	
18D0557-BS1	Theirium (T!) EPA 6020A	TheDism	0,105	0.1000	mg/L	105	85 - 115	
(8D0558-BS1	Lithium (Li) RPA 6020A	Lithium	1.01	1.000	mg/L	101	85 - 115	
8D0559-BS1	Calcium (Ca) EPA 6010B	Calcium	1.95	2.000	mg/L	98	85 - 115	
8D1024-B\$1	Mercury (Hg) EPA 7470A	Mercury	1.5	1.667	ug/L	90	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Quality Control Data

Matrix Spike Data

QC Lab #	Test Group	Test Name	Saurce Sample	Sample Result	Units	Spike Result	Spike Level	% Rec.	Acceptance Limits	Plage
J8JD0557-MS1	Antimony (Sb) EPA 6020A	Antimony	AD04095-01	BPQL	mg/L	0.098	0.1000	98	85 - 115	
J8D0557-MS1	Arrenic (As) EPA 6020A	Arsenic	AD04095-01	0.005	mg/L	0.096	0.1090	90	85 - 115	
18D0557-MS1	Barium (Ba) EPA 6020A	Bariana	AD04095-01	0.180	mg/L	0.279	0,1000	99	85 - 115	
18D0557-M81	Beryllium (Be) EPA 6020A	Becyllian	AD04095-01	BPQL	mg/L	0.084	0.1600	84	85 - 115	#52
18D0557-M81	Boron (B) EPA 6020A	Boron	AD04095-01	0.074	mg/L	0.154	0.1000	80	85 - 115	#52
18D0557-MSI	Cedmium (Cd) EPA 6020A	Cadmium	AD04095-01	BPQL	mg/L	0.092	0,1000	92	85 - 115	
18D0559-MS1	Calcium (Ca) BPA 6010B	Calcium	AD04095-05	212	mg/L	215	2,000	125	85 - 115	#52
1ED0557-MSI	Chromium (Cr) EPA 6020A	Chromismo	AD04095-01	BPQL	mg/L	0.090	0.1000	90	85 - 115	
18D0557-MS1	Cobalt (Co) EPA 6020A	Cobalt	AD04095-01	BPQL	mg/L	0.090	0.1000	90	85 - 115	
18D0557-MS1	Lead (Pb) EPA 6020A	Lead	AD04095-01	BPQL	mg/L	0.103	0.1000	103	85 - 115	
18D0558-M\$1	Lithium (Li) EPA 6020A	Lithium	AD04095-01	BPQL	mg/L	1.12	1.090	112	85 - 115	
18D1024-M51	Mercury (Hg) EPA 7470A	Mercary	AD04095-01	BPQL	ug/L	1.1	1.667	67	75 - 125	#52
18D0557-MS1	Molybdamun (Mo) EPA 6020A	Molybdenum	AD04095-01	BPQL	mg/L	0.104	0.1000	104	85 - 115	
18D0557-M81	Selenium (Sc) HPA 6020A	Selenium	AD04995-01	BPQL	mg/L	0.089	0,1000	83	85 - 115	#52
18D0557-MS1	Thellium (TI) EPA 6020A	Thailium	AD04095-01	RPQL	mg/L	0.105	0,1000	105	85 - 115	

Matrix Spike Duplicate Data

QC Lab#	Test Group	Test Name	Sample Result	Spike Result	Spike Level	Vaits	% Rec.	Rec.	%. RPD	RPD Limit	Fings
18D0557-MSD1	Antimony (Sb) EPA 6020A	Antimony	BPQL	0.100	0.1000	mg/L	100	85-115	2	20	
18D0557-MSD1	Arsenic (As) EPA 6020A	Arsenic	0,005	0.098	0.1000	mg/L	93	85-115	3	20	
18D0557-MSD1	Barium (Be) EPA 6020A	Berium	0,180	0.288	0,1000	mg/L	107	85-115	3	20	
18D0557-MSD1	Beryllium (Be) EPA 6020A	Beryllium	BPQL	0.082	0.1000	mg/L	82	85-115	2	20	#52
18D0557-MSD1	Boron (B) BPA 6020A	Boron	0.074	0.157	0,1000	mg/L	84	85-115	2	20	#52
18D0557-MSD1	Cadmium (Cd) EPA 6020A	Cadmium	BPQL	0.092	9.1000	mg/L	92	85-115	0.04	20	
18D0559-MSD1	Calvium (Ca) EPA 6010B	Calcium	212	207	2.000	mg/i.	-275	85-115	4	20	#52
18D0557-MBD1	Chromium (Cr) EPA 6020A	Chromium	BPQL	0.091	0.1000	mg/L	91	85-115	1	20	
18D0557-MSD1	Cobalt (Co) EPA 6020A	Cobalt	BPQL	9.091	0.1000	mg/L	91	85-115	0.5	20	
18D0557-MSD1	Lord (Pb) EPA 6020A	Lead	BPQL	0.103	0.1000	mg/L	103	85-115	0.3	20	
18D0558-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQL	1.09	1.000	mg/L	109	85-115	2	20	
BD1024-M\$D1	Mercury (Hg) EPA 7470A	Mercury	BPQL	1.4	1.667	ug/L	82	75-125	21	20	#52
18D0557-MSD1	Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL	0.105	0.1000	mg/L	105	85-115	0.1	20	
BD0557-MSD1	Selenium (Se) EPA 6020A	Selenium	BPQL.	0.085	0,1000	mg/L	85	85-115	2	20	
8D0557-MSD1	Thellium (TI) EPA 6020A	Thallium	BPQL	0.108	9.1000	mg/L	108	85-115	3	20	

Accurate Work Order Dilifted 4/3/18 -0 4/3/18 -0 4/3/18 -0 4/3/18 -0 4/3/18	2007 1,00.	Crient Name-Project Name-or Gral Or Gran Or Gr	- L &	Thain C	Chain of Custody	ody	Sample Preserv.	Oot > 100	O°4> 1000	O. 101	O.#>	O₀†>	2
	Time Sample Taken 1929	Project N Matrix Or Source (Refer, bollow) GW	Grab (Gr	OG&	T. Minekanton		All All and had have	loc	1000	[O)			o#>
	Time Semple Taken 10.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.2 1.0.3	Project N. Matrix or Source (Refer. bolow) GW	Grab (G)	CCR	TATEMENTAL OF	OG&E Muskogee Power Plant	Container	C)	CO	Cool	100O	[000]
	1 2 2 2 2 2 2 2 2 2	Materix or Source (Refer, bollow) GW	Grab (G)		CCR Groundwater Monitoring	Monttorin						200	1
2-10 17	1059 1-104 1-104 1-104	(Refer. below) GW	L'Omn	Chent I.D. / Si	Citent I.D. / Sample Location or	Field Results (pH, Tenn, Chlorine) (note analysis & units)	Analysis Requisted	n, Calcium, de, Fluoride, Sullate	SQT.	els* (see	481-h 250 and 228	(EPA 245.1)	(GPA 300)
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On-Site Info Raw Alkalinity		1	Turbidity					eld Instran	Field Instrument Calibration	Tion -			
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m 5/	condensity and a Marca Infla-	WW = Wastemater; or direct influence of Floring	SL = Madge ;	Indge ; O = Other	DW = Drinkbayunder : WW = Wasteneter ; SL = Zhalge, O = Other Groundstate under direct influence of Fants, Dress GWUDE-FS = Groundstate under direct filterwork falls.	1		-	H IVERT	Late	s cime		SHATTON
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Rethresished By: A. B. L. S.	The state of the s	1		Detecting 4-4-4	114S	Received By:			00		Date/Dine		
o Referentated to Lab By: o Refer d to Lon-in Frides By:						Received at Lab Par	freds.	Z.	Rec'd	1	Date/Time	1	1
Reporting Requirements (annual 10-15 working days)	Compliance Reporting?	e i (DMR)	Yes ou	or No	Oklahoma PWS ID #			RESS	RUSH Request	<u> </u>	er l		
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Address: 5501 Three Forks Road Ft. Gibson, OK 74434	OK 74434					Address: APVendorInvoices@oge.com	Invoices@c	ge.com	Bid#				
Phone #: (405) 553-4079	79	Fox#	Ens.#: (405	553-4063		Zbone#: (553-4079)			Fax #:	(405) 553-4063	53-4063	1	
www.accuratelabs.com (800) 516-5227	505 South Lowry Street Stillwater, OK 74074	Wry Street W 74074	Phone:	72-5300 372-5300 405) 372-5300	0 6558 E. 40th Street	Phone: (918)	1	36 N. Pc.	12036 N. Pennsylvania		Phone: (405) 751-3132	751-3132	313

Sampling Log

Sample ID	Date: 4-27-18	
Sauthe m	Weather Conditions and Temperature: Clear 780	
deld Samplers	Names: Touch Dow, Jason Childress, Jerry Blodgett, M	cha!
	Groundwater Level (ft below TOC): 9 6"	
MW01	Sample Time: //://O	
	Purge Volume: 4.67 gal Fletd pH: 6.99 (11:1	8)
ann ang ghyddich diwyr - wllerddi frighiffer affer glynnyr ann reithiou y gymru arman	Groundwater Level (ft below TOC):: 3'8"	ti
MW02	Sample Time: //:30	***************
MATALOG	Purge Volume: 8.67 on Field pH: 6.89 (11:	(8)
	Comments:	191
	Groundwater Level (ft below TOC):: 7/3" To: 22'8	1
MW03	Sample Time: //:55	-
	Purge Volume: 8,67 gal Field pH: 6.84 (12:	e3)
	Comments:	
	Groundwater Level (ft below TOC):: 10'	-4
MW04	Sample Time: 8 17 00 12:22	
1/1/1/04	Purge Volume: 8,67 001 Field pH: 6,67 (12:3	(0)
	Comments:	
	Groundwater Level (ft below TOC):: 9'4"	•
MW055	Sample Time: 12:44	animotoria alabel to
	Purge Volume: 6.12 gal Fleid pH: 6.78 (12:47	(
	Comments:	

Additional Notes:

Attachment 1: Sampling Log

October 17, 2017

Groundwater Velocity

Date: 4/27/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μ m/sec = 0.00007013'/sec = 7.013E-05) I = Horizontal hydraulic gradient = dh/dl = dlfference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - M	W2:				
dh =	1.17	MW1 =	509	9.5	499.5
dl =	1053.2	MW2 =	502	3.67	498.33
i = dh/di =	0.0011109				
V = KI/n =	2.68646E-07 ft/sec =	0.081883 µm	n/sec		
MW1 - MV					
dh =	1.75	MW1 =	509	9.5	499.5
di =	1390	MW3 =	505	7.25	497.75
I = dh/dl =	0.001258993				
V = KI/n =	3.04459E-07 ft/sec =	0.092799 µгг	/sec		
MW5 - MV					
dh =		MW5 =	506	9.33	496.67
di =	326.21	MW4 =	507	10	497
i = dh/di =	-0.001011618				
		P	The second		
V = KI/n =	-2.44637E-07 ft/sec =	-0.07457 µm	/sec		
MW5 - MW	-				
dh =	-1.08	MW5 =	506	9.33	496.67
dl =		MW3 =	505	7.25	497.75
i = dh/dl =	-0.0013958				
		- 950 - 7			
V = Ki/n =	-3.37543E-07 ft/sec =	-0.10288 µm	/sec		

Attachment	2	,	Groundwater	r	How	Direction	Fiold	Notes
Altaci intent	_	-	CiddilaMale			DIFFCHOLI	rieiu	IVOICS

4-27-18	Attachment 2 : Groundwater Flow Direction Field Notes
	HG: 0.00699 St/St
	DOF: 143.05° clockwise from True North
W-MOZ-MUN?	HCa: 0.00378 St/St
manufacture a manufacture of the state of th	DOF: 177.4° clockwise from True North
שו- אשצ-אשני	HG: 0.00346 SHSH
The second secon	DOF: 191,26° Clockwise from True Shorth
DICAUS-AUX	HG: 0.00189 H/H
4000	DOF: 295.31° Clockwise From True North
WI-MWS-MUSS	Ha: 0.00189 ft/st
	Dof: 290, 91° clockwise Som True North
WE-MUY-MUY	HG: 0.00131 4/4
	DOF: 148.78° clockwise from True North
22-AU3-AU4	HG: 0.00609 SHS
Apple 36 Schools in France and September 1975	DoF: 43.64° elockwise from True North
32-AW3-1625	Ha: 0,00668 H/H
	DOF: 39.02° clockesise from True North
32-AWY-MUX	HG: 0.01246 CHS
Semilitaristica at Autority of State and	Dof: 34.65° clockwise from True North
72-47-4-472	HG: 0.0021 St/St
AND THE THE STATE OF THE STATE	DOF: 9 99° clockwise from True North
Algorithms (Indiana Assessment) and the second Section 1985	



May 09, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National
Environmental
Laboratory
Accreditation
Program
Kansas CERT # E-10219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: May 01, 2018 Time: 11:40 sample temp upon arrival at lab = 2°C - On Ice

Matrix: Ground Water

Lab Log Numbers: AE01046-01 AE01046-02 AE01046-03 AE01046-04

AE01046-05

Work Order: AE01046

Report # AB01046-0509180841

EPA Lab ID#'s: Stillwater OK00092 Tuba OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:
40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes
EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes,
SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard
Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126527

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/27/18 11:10

Lab Log# AE01046-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analyzis Info
Chloride EPA 300.0	Chlorida	BPQL m	ng/L	5,00	05/02/18 09:20 BM	05/02/18 18:16 BM
Fluoride EPA 300.0	Pluoride	0,23 α	ng/L	0.10	05/02/18 09:20 BM	05/02/18 17:32 BM
Sulfate EPA 300.0	Sulfate	16.2 m	ng/L	5.00	05/02/18 09:20 PIM	05/02/18 18:16 BM
Total Dissolved Solids 8M2540 C	Total Dissolved Solids	418 m	ng/L	25.0	05/04/18 12:30 @AG	05/07/18 12:30 @AG
Boron (B) EPA 6010B	Bonon	0.080 m	ng/L	0.050	05/03/18 16:00 PD	05/04/18 18:56 LF
Calcium (Ca) EPA 6010B	Calcium	99.5 m	ng/L	0.50	05/03/18 16:00 PD	05/07/38 16:18 LF

Sample: MW-2 MK-126528

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/27/18 11:30

Lab Log# AE01046-02

Method/Parameter	Test	Remi	lt	Notes	PQL#	Prep Infe	Analysis Info
Chloride EPA 300,0	Chloride	29.0	mg/L		5.00	05/02/18 09:20 BM	05/02/18 19:44 BM
Fluoride EPA 300.0	Fluoride	0.23	mg/L		0.10	05/02/18 09;20 BM	05/02/18 19:22 BM
Sulfate EPA 300.0	Sulfate	84.4	mg/L		5.00	05/02/18 09:20 BM	05/02/18 19:44 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	346	mg/L		25,0	05/04/18 12:30 @AG	05/07/18 12:30 @AG
Beron (B) EPA 6019B	Horon	0.220	mg/I.		0.050	05/03/18 16:00 PD	05/04/18 18:59 LF
Calcium (Ca) EPA 6010B	Calcium	110	mg/L		0.50	05/03/18 16:00 PD	05/07/18 16:21 LF

Sample: MW-3 MK-126529

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/27/18 11:55

Lab Log# AE01046-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Infe	Analysis Info
Chloride EPA 309.0	Chloride	153 mg/L		12.5	05/02/18 09:20 BM	05/02/18 20:07 BM
Flueride . EPA 300.0	Flueride	0.17 mg/L		0.10	05/02/18 09:20 BM	05/03/18 09:21 BM
Sulfate EPA 300.0	Sulfate	196 mg/L		12,5	05/02/18 09:20 BM	05/02/18 20:07 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1030 mg/L		25.0	05/04/18 12:30 @AG	05/07/18 12:30 @AG
Boron (B) EPA 6010B	Boron	0.062 mg/L		0,050	05/03/18 16:00 PD	05/04/18 19:02 LF
Culcium (Ca) EPA 6010B	Calcium	218 mg/L		0.50	05/03/18 16:00 PD	05/07/18 16:24 LF

Sample: MW-4 MK-126538

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/27/18 12:22

Lab Log# AE01046-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Infe	Analysis Info
Chloride EPA 300.0	Chloride	140 mg/L		25,0	05/02/18 09:20 RM	05/03/18 10:05 BM
Flooride HPA 300,0	Fluoride	0.15 mg/L		0.10	05/02/18 09:20 BM	05/03/18 09:43 BM
Sulfate EPA 300.0	Sulfate	342 mg/L		25,0	05/02/18 09:20 BM	05/03/18 10:05 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1370 mg/L		25.0	05/04/18 12:30 @AG	05/07/18 12:30 @AG
Boron (B) EPA 6010B	Boron	0.072 mg/L		0.050	05/03/18 16:00 PD	05/04/18 19:03 LF
Calcium (Ca) EPA 6010B	Calcium	304 mg/L		0.50	05/03/18 16:00 PD	05/07/18 16:27 LF

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Attachment 2 : Analytical Report

Page 2 of 5

AE01046-0509180841

Sample: MW-5 MK-126531

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

4/27/18 12:41

Lab Log# AE01046-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Jufe	Analysis Info
Chloride EPA 300.0	Chloride	26,5 mg/L		12,5	05/02/18 09:20 BM	05/03/18 10:48 BM
Fluoride EPA 300.0	Fluoride	0.14 mg/L		0.10	05/02/18 09:20 BM	05/03/18 10:26 BM
Sulfate EPA 300.0	Suifate	149 mg/L		12.5	05/02/18 09:20 BM	05/03/18 L0:48 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	860 mg/L	-	25,0	05/04/18 12:30 @AG	05/07/18 12:30 @AG
Boron (B) EPA 6010B	Boron	0.268 mg/L		0.050	05/03/18 16:00 PD	05/04/18 19:07 LF
Calcium (Ca) EPA 6010B	Calcium	176 mg/L		0.50	05/03/18 16:00 PD	05/07/18 16:30 LF

Notes and Definitions

#52 Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.

Analyse concentration may exceed Maximum Comminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations. MCL

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with PQL

interferences/matrix effects

Below Practical Quantitation Limit (if applicable). BPQL

The "Prop Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Quality Control Data

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18E0202-BLK1	Chloride EPA 309.0	Chlaride	BPQL mg/L	0.500	
18E0202-BLK1	Fluoride EPA 300,0	Fluoride	BPQL mg/L	0.10	
18E0202-BLK1	Sulfate EPA 300,0	Sulfate	BPQL mg/L	0.500	
18E0409-BLK1	Total Dissolved Solids SM2549 C	Total Dissalved Solids	BPQL mg/L	25.0	
18E0352-BLK1	Boron (B) EPA 6010B	Boron	BPQL mg/L	0.050	
18E0352-BLK1	Caloium (Ca) EPA 6010B	Calcium	BPQL mg/L	0.10	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
18B020Z-DUP1	Chloride EPA 300.0	Chlorida	AE01046-01	2.08	2.34	12	20	
18E0202-DUP1	Fluorida EPA 300,0	Fluoride	AE01046-01	0.23	0.23	2	20	
18E0202-DUP1	Sulfate EPA 300,0	Sulfate	AE01046-01	16,2	16.2	0,2	20	

Laboratory Control Sample Data

Tab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Maga
18B0202-BS1	Chloride EPA 300.0	Chloride	2.89	3.000	mg/L	96	90 - 110	
18E0202-BS1	Fluoride EPA 300.6	Fluoride	1.55	2.000	mg/L	94	90 - 110	
18E0202-BS1	Sulfate EPA 300.0	Sulfate	15.0	15.00	mg/L	100	90 - 110	
18E0409-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	994	1000	mg/L	99	80 - 120	
18E0352-BS1	Boros (B) EPA 6010B	Boron	1.92	2.000	mg/L	96	85 - 115	
I8E0352-BS1	Calcium (Ca) EPA 6010B	Celcium	2.00	2.000	mg/L	100	85 - 1)5	

Matrix Spike Data

QC Lab#	Test Group	Test Name	Source Sample	Sanaple Result	Units	Splice Result	Spike Level	% Ree,	Acceptance Limits	Flags
18B0202-MS1	Chloride EPA 300.0	Chlorido	AE01046-01	2.34	mg/L	16.8	16.67	87	80 - 120	
18E0202-MS1	Fluoride EPA 300,0	Fluorido	AB01046-01	0.23	mg/L	15.5	16,67	92	80 - 120	
18E0202-MS1	Sulfinte EPA 300.0	Sulfate	AE01046-01	16.2	mg/L	23.5	16.67	44	80 - 120	
18E0352-MS1	Boron (B) EPA 6010B	Boron	AB01046-01	BPQL	mg/L	9.80	10.00	98	83 - 115	
18E0352-MS1	Calcium (Ca) EPA 6010B	Calcium	AE01046-01	99.5	mg/L	124	10.00	245	85 - 115	#52

Matrix Spike Duplicate Data

QC Lab#	Test Group	Test Name	Sample Result	Spike Result	Spike Level	Units	% Rec.	Rec.	% RPD	RPD Limit	Flags
18E0352-MSD1	Boron (B) EPA 6010B	Boren	BPQL	9.65	10.00	mg/L	96	B5-115	2	20	
18E0352-MSD1	Calcium (Ca) 5PA 6010B	Celcium	99,5	131	10,00	mg/L	315	85-115	5	20	#52

												-		
Contate					hain	Chain of Custody	tody		nie nie	Sample Preserv.	D.\$>	J.4>		
			Client Name-	ETTIC-	50	OG&E Muskogee Power Plant	Power Pl	ant		Container	Cool	Cool		
\).		Project Name-	Varne-	CC	CCR Groundwater Monitoring	r Monitor	ing	1					+
Accurate Work Order	Date Sample	Time	Matrix or Source	de Const	Client I.D./	Client L.D. / Sample Location or	Field Resutts (pH, Temp. Chlorine, (note analysis & units)	Field Results Temp. Chlorine a analysis & un	. (8	Anafysis Respected	a, Calcium, de, Muoride, saltare	SQT		
	Aaken	a a key	(Roter below)	<u>(</u> 0	DEQ / EP	DEQ / EPA Location Code	0	49	(Femp	# of Confider	Chloric			
	4/27/18	0	GW	Ð	MW-1	TC23651-XIM		6.9	7 7	d	×	><	T	
4	4/27/18	1130	GW	Ö	MW-2	MK-124528		000	12	d	×	×		
	4/27/18	155	GΨ	9	MW-3	MK- (2652		18.9	7.5	d	×	×	e e e e e e e e e e e e e e e e e e e	
4	4/27/18	727	GW.	Ö	MW-4	MK- 36530		6.67	7.4	d	×	×		-
AS 4	4/27/18	2	GW	Ð	MW-5	MK- 26 53		E. 78	00	6	×	×	-	
On-Site Info Raw	Raw Alkalinity		E	Turbidity						- E	dd bustermen	Reld Instrument Collbrotion		
	DW = Drinkingwater;	WW " Wastewater:	mg/L (E. Fastewater :	(E.Coli)= : SL = S	oli)= ntu Skydee: 0 = Other	n		Meter Tare	250	Standards	Fins	Final Read.	Date, Time	Buitists
Comments Boro	-FS Gosenha m (EPA 200.1	s), Calcium (EP)	A 200.7), C	Chloride (FPA 300), Fluorid	GWUDL-88s- Grandhaus under direct inflance of Floridy, Stream GWUDL-88s- Greundwais under direct laftunes of Reservoirdules. Barva (EPA 200.8), Calcium (EFA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Sulfate (EPA 300),	ReservainLake EPA 300),	All	All Glass samples al	containers p re schedules m, tes will i	wovided by i to be disg be returned	Accurate La	All Glass containers provided by Accurate Labs have Tellan lined lids All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate,	ined lids al Acemate.
infication by Com	rany Official	Thereby certify the number of a system	of the above	sampling c	Certification by Company Official: I hereby osnify that the samping occurred during a period such that the sam-less judge representative of a typical operation des distings for the although the company of the company	iod Signature:	Parl	A					Date/Tiny/9	01/10
Sampled By:	7	1				Company: Oklahoma Gas & Electric	homa Gas &	: Electri	e.		Sample Method:	ethod:		0110
Refinantiated Dr. M.	7				Date/Time	Vel	Received Br.	•	الأسارية ولكن				Date/Time	
o Reinquished to Leb By: o Relate to Los. In Frides, By	Br				Date/Time		Received at Lab By:	1		74 malle	-	Resid S	DateTime	11100
Reporting Requirements (standard 10-15 working daya)	dents dnyn)	Compiliance Reporting?	(DMR,	Yes or	or No	Oktahoma PWS ID #			1		RUSS	18	3	
Mail Report To Smith	hsCAimo	SmithsCAintoge.com, downa@oge.com	TR(Q)Ogr	S.COM			Mail Invoice To: Email invoice to:	To: En	sail inve	ice to:		200	-	WORKING DAYS
Address: 550/	5501 Three Forts Road Ft. Gibson, OK 74434	Road 74434					Address	APVel	ndorInv	APVendorInvoices@oge.com	gecom	*O4		
Phone # (405) . Email:	553-4079		Fax d	Fax &: (405)) 553-4063		Zhane #:	(553-4079)	(62			Eax#	(405) 553-4063	. 22
WWW. accorratelabs.com		505 South Lowry	ny Street	Phone:	× (405) 372-5300	300 6558 B. 40th Street	Street Phone		(019) KK2 CADO	1				

Sampling Log

Sample ID	Date: 5-23-18
pamint in	Weather Conditions and Temperature:
Field Samplers	Names Jason Chikless, Jermy Blodgett, Michael Jo.
	Groundwater Level (ft below TOC): 8'8" To: 29'3"
MW01	Sample Time: 10:57
	Purge Volume: 5.61 gol Field pH: 6.98 (11:03)
	Groundwater Level (ft below TOC):: 312"
3-635/02	Sample Time: //: 4/3
MW02	Purge Volume: 5.61 gal Fleld pH: 6.92 (1/51)
	Comments
	Groundwater Level (ft below TOC): 42'7"
MW03	Sample Time: 12:06
	Purge Venume: 5.6/00 Field pH: 6.83 (2:13)
	Comments:
	Groundwater Level (R below TOC):: 9'2" TO: 22'4"
MW04	Sample Time: /2:32
TAT AA M-6	Purge Volume: 5.61 gal Field pH: 6.68 (12:59)
	Comments:
	Groundwater Level (ft below TOC):: 8'7" 10:21'8"
IMW055	Sample Time: 12:54
ITA TT VOO	Purge Volume: 5.61 gal Field pH: 6.79 (13:00)
	Comments:

Additional Notes:

Groundwater Velocity

V=KI/n V = Groundwater velocity

 $K = Horizontal hydraulic conductivity (at site: 21.3767 \mum/sec = 0.00007013'/sec = 7.013E-05)$

Date: 5/23/2018

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - MW2: MW1 = 509 8.67 500.33 dh = 1.497 dl =1053.2 MW2 = 502 3.167 498.833 l = dh/dl = 0.0014213820.104769 µm/sec V = KI/n = 3.43729E-07 ft/sec = MW1 - MW3: dh = 2.33 MW1 = 509 8.67 500.33 505 dl = 1390 MW3 = 498 1 = dh/dl = 0.001676259 V = KI/n = 4.05366E-07 ft/sec = 0.123555 µm/sec MW5 - MW4: MW5 = 506 497.417 dh = -0.4168.583 dl = 326.21 MW4 = 507 9.167 497.833 i = dh/dl = -0.001275252V = KI/n = -3.08391E-07 ft/sec =-0.094 µm/sec MW5 - MW3: dh =-0.583MW5 **=** 506 8.583 497.417 505 498 dl= 773.75 = EWM I = dh/dl = -0.000753473 V = KI/n = -1.82211E-07 ft/sec -0.05554 µm/sec

per						
Attachment	2:	Groundwater	Flow	Direction	Field Notes	S

5-23-18	Attachment 2 : Groundwater Flow Direction Field Notes
121-AUZ-MU31	HG: 0.00688 St/St
. 40.0	Dof: 146.78° clockerise home True North
WI-MUZ-MEH!	HG: 0,00423 St/St
#5-Wheels = -5 II The special desirable for the New York and September 1997	Dof: 178.2° clockwise from Tree North
WI-MW2-MW8	HG: 0.00382 Ct/ft
	Dof: 189.88° clockwise from True North
WI-AW3-AW4	HG: 0.00129 FH/FH
N	Dof: 240,69° Clockwise from Tree North
21-103-105:	HG! 0.0014 FHF4
	Dof: 253.85° clockwise from True North
12 - MW4-MW8!	14: 0.0015 ft/ft
	DOF: 279, 25° clockwise from True North
192-1425-14WI	HG: 0.00464 St/St
	DOF: 54.24° Clockwise from True North
22-1425-1445i	HG: 0.00551 CH/SH
gaggaggaddinapaggagag d, actor haird animas seam baran baran animas anim	DOE: 43.18° clockwise from Tour North
38-104-1015	HG: 0.01516 St/St
SS- MAS- MAS	HG: 0.00292 ft/st
DE AUS- AUS	Dof: 245.73° Clockwise Gross True North
	-VOI a. EST 2-LO. CONCACUSE PROM. INV. SSETA
	1 - Marine T
	as as asserting the purphent of the second s
gridge	11.4 mb - ap

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June 04, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434





National Environmental Laboratory Accreditation Program Kansos CERT # E-10219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: May 24, 2018 Time: 11:11 sample temp upon arrival at lab = 2°C - On Ice

Matrix: Water

Lab Log Numbers: AE24041-01 AE24041-02 AE24041-03 AE24041-04

AE24041-05 AE24041-06 AE24041-07

Work Order: AE24041

Report # AE24041-0604180922

EPA Lab ID#'s: Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stilliwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference: 40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes,

SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126551

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

5/23/18 11:00

Lab Log# AE24041-01

Method/Parameter	Test	Result	Netre	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	0.881 mg/L		0.500	05/25/18 12:07 BM	05/26/18 02:56 BM
Pluoride EPA 300.0	Fluoride	0.22 mg/L		0.10	05/25/18 12:07 BM	05/26/18 02:56 BM
Sulfinta EPA 300.0	Sulfate	14.9 mg/L		0.500	05/25/18 12:07 BM	05/26/18 02:56 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	386 mg/L		25.0	05/29/18 13:08 @MH	05/31/18 15:00 @MH
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:09 PD
Arsenic (As) EPA 6020A	Arsenic	0.012 mg/L		0.005	05/25/18 16:00 PD	05/30/18 15:07 PD
Barium (Ba) EPA 6020A	Barium	0.182 mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:09 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:09 PD
Boron (B) EPA 6020A	Boron	0.087 mg/L		0.025	05/25/18 16:00 PD	05/29/18 16:09 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:09 PD
Calcium (Ca) EPA 6010B	Calcium	96.0 mg/L		0,10	05/25/18 16:00 PD	05/29/18 (3:18 LP
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	05/25/18 16:00 PD	05/29/18 16:09 PD
Cobalt (Co) EPA 6020A	Cobult	BPQL mg/L		0.010	05/25/18 16:00 PD	05/29/18 16:09 PD
Leed (Pb) EPA 6020A	Lead	BPQL mg/L		0,005	05/25/18 16:00 PD	05/29/18 16:09 PD
Lithium (Li) EPA 6020A	Lifhium	BPQL mg/L		0.050	05/25/18 16:00 PD	05/31/18 10:40 LF
Mercury (Hg) EPA 7470A	Merecury	BPQL ug/L		0.050	05/31/18 08:20 RW	05/31/18 14:07 RW
Molybdenum (Mo) EPA 6020A	Molybdennm	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:09 PD
Idenium (Se) EPA 6020A	Selenium	BPQL mg/L		0,095	05/25/18 16:00 PD	05/29/18 16:09 PD
fhallium (II) EPA 6020A	Thellium	RPQL mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:09 PD

Sample: MW-2 MK-126552

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:43

Lab Log# AE24041-02

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Chlorida EPA 300,0	Chloride	34.1 mg/L	5.00	05/25/18 12:07 BM	95/26/18 94:41 BM
Phroride EPA 300,0	Fluoride	0.24 mg/L	0.10	05/25/18 12:07 BM	05/26/18 04:20 BM
Sulfate EPA 300.0	Sulfate	83.4 mg/L	5,00	05/25/18 12:07 BM	05/26/18 04:41 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	408 mg/L	25.0	05/29/18 13:08 @MH	05/31/18 15:00 @MF
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:31 PD
Amenic (As) EPA 6020A	Arsenic	0.013 mg/L	0.005	05/25/18 16:00 PD	05/30/18 15:13 PD
Barium (Bu) EPA 6020A	Barium	0.245 mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:31 PD
Becyllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.003	05/25/18 16:00 PD	05/29/18 16:31 PD
Boron (B) EPA 6020A	Boron	0.252 mg/L	0.025	05/25/18 16:00 PD	05/29/18 16:31 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	05/25/18 16:00 PD	05/29/18 16:31 PD
Celeiram (Ca) EPA 6010B	Calcium	106 mg/L	0.50	05/25/18 16:00 PD	05/29/18 14:09 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	05/25/18 16:00 PD	05/29/18 16:31 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	05/25/18 16:00 PD	05/29/18 16:31 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	6,005	05/25/18 16:00 PD	05/29/18 16:31 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0,050	05/25/18 16:00 PD	05/31/18 10:44 LF
Mercusy (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	05/31/18 08:20 RW	05/31/18 14:10 RW

505 S. Lowry Street Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:43

Lab Log# AE24041-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:31 PD
Selenium (Se) EPA 6020A	Selenium	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:31 PD
Thellium (T1) EPA 6020A	Thellium	BPQL mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:31 PD

Sample: MW-3 MK-126553

Location Code:

PW8ID#:

Collection Type: Grab

Sample Time:

5/23/18 12:08

Lab Log# AE24041-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chluride EPA 300.0	Chloride	140 :	ng/L	12,5	05/25/18 12:07 BM	05/26/18 05:23 BM
Fluorida EPA 300.0	Fluoride	0.17 r	ng/L	0.10	05/25/18 12:07 BM	05/26/18 05:02 BM
Sulfate EPA 300.0	Sulfate	184 r	ng/L	12.5	05/25/18 12:07 BM	05/26/18 05:23 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	970 z	ng/L	25.0	05/29/18 13:08 @MH	05/31/18 15:00 @MF
Antimony (Sb) EPA 6020A	Antimony	BPQL n	ng/L	0.005	05/25/18 16:00 PD	05/29/18 16:36 PD
Arsenic (As) EPA 6020A	Arsenic	0.017 m	ng/L	0.005	05/25/18 16;00 PD	05/30/18 15:18 PD
Barium (Ba) EPA 6020A	Barium	0.355 n	ng/L	0.005	03/25/18 16:00 PD	05/29/18 16:36 PD
Beryllium (Ba) EPA 6020A	Beryllium	BPQL n	ng/L	0.001	05/25/18 16:00 PD	05/29/18 16:36 PD
Beron (B) EPA 6020A	Boron	0.080 n	ag/L	0.025	05/25/18 16:00 PD	05/29/18 16:36 PD
Cadmium (Cd) EPA 6020A	Cadmiun	BPQL n	ng/L	0.001	95/25/18 16:00 PD	05/29/18 16:36 PD
Calcium (Ca) EPA 6010B	Calcium	198 0	ng/L	0.50	05/25/18 16:00 PD	05/29/18 14:11 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL n	ış/L	0.010	05/25/18 16:00 PD	05/29/18 16:36 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL m	ng/L	0.010	05/25/18 16:00 PD	05/29/18 16:36 PD
Lend (Pb) EPA 6020A	Lead	BPQL m	ıg/L	0.005	05/25/18 16:00 PD	05/29/18 16:36 PD
Lithium (Li) EPA 6020A	Lithium	BPQL m	ng/L	0.050	05/25/18 16:00 PD	05/31/18 10:49 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL m	g/L	9.050	05/31/38 08:20 RW	05/31/18 14:13 RW
Molybdezoza (Mo) EPA 6020A	Molybdenum	BPQL m	g/L	0.005	05/25/18 16:00 PD	05/29/18 16:36 PD
Scienium (So) EPA 6020A	Selenium	BPQL m	g/L	0.005	05/25/18 16:00 PD	05/29/18 16:36 PD
Imiliam (TI) EPA 6020A	Thallium	BPQL m	g/L	0.001	05/25/18 16:00 PD	05/29/18 16:36 PD

Sample: MW-4 MK-126554

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 12:32

Lab Log# AE24041-04

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Chloride EPA 300,0	Chloride	139 mg/L	25.0	05/25/18 12:07 BM	05/26/18 06:05 BM
Pluoride EPA 309.0	Fluoride	0.16 mg/L	0.10	05/25/18 12:07 BM	05/26/18 05:44 BM
Sulfate EPA 300.0	Sulfate	341 mg/L	25.0	05/25/18 12:07 BM	05/26/18 06:05 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1320 mg/L	25.0	05/29/18 13:08 @MH	05/31/18 15:00 @MH
Antimony (Sb) EPA 6020A	Anticomy	BPQL mg/L	9,005	05/25/18 16:00 PD	05/29/18 16:42 PD
Arsenic (As) RPA 6020A	Amenic	0.022 mg/L	0.005	05/25/18 16:00 PD	05/30/18 15:24 PD
Berium (Ba) EPA 6020A	Berium	0,274 mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:42 PD
Beryllium (Be) EPA 602ĎA	Beryllium	BPQL mg/L	0.001	05/25/18 16:00 PD	05/29/18 16:42 PD
Boron (B) EPA 6020A	Boron	0.085 mg/L	0.025	05/25/18 16:00 PD	05/29/18 16:42 PD
Cadmium (Cd) EPA 6020A	Codmium	BPQL mg/L	0,001	03/25/18 16:00 PD	05/29/18 16:42 PD

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Stillwater, OK 74074

405-372-5300

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Location Code:

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Collection Type: Grab

Sample Time:

5/23/18 12:32

Lab Log# AR24041-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Calcium (Ca) EPA 6010B	Celoium	292 mg/L		0.50	05/25/18 16:00 PD	05/29/18 14:14 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	05/25/18 16:00 PD	05/29/18 16:42 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	05/23/18 16:00 PD	05/29/18 16:42 PD
Load (Pb) EPA 6020A	Lead	BPQL mg/L		0.005	95/25/18 16:00 PD	05/29/18 16:42 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	95/25/18 16:00 PD	05/31/18 10:53 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL og/L		0.050	05/31/18 08:20 RW	05/31/18 14:16 RW
Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:42 PD
Balanium (Sc) EPA 6020A	Selenium	BPQL mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:42 PD
Thallium (TI) EPA 6020A	Thalliam	BPQL mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:42 PD

Sample: MW-5 MK-126555

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 12:57

Lab Log# AE24041-05

Method/Parameter	Test	Resu	lįt	Notes	PQL#	Prep. Info	Analysis Info
Chloride EPA 300.0	Chloride	25.0	mg/L		12.5	05/25/18 12:07 BM	05/26/18 06:47 BM
Fluoride EPA 300.0	Fluoride	0.15	mg/L		9.10	05/25/18 12:07 BM	05/26/18 06:26 BM
Sulfate EPA 300.0	Sulfate	144	mg/L		12.5	05/25/18 12:07 BM	05/26/18 06:47 BM
Total Discolved Solids SM2540 C	Total Dissolved Solids	824	mg/L		25,0	05/29/18 13:08 @MH	05/3 L/18 15:00 @3/0
Antimusy (Sb) BPA 6020A	Antimony	BPQL	mg/L		0.005	05/25/18 16:00 PD	03/29/18 16:47 PD
Arsenie (As) EPA 6020A	Argenic	0.016	mg/L		0.005	05/25/18 16:00 PD	05/30/18 15:29 PD
Berium (Ba) EPA 6020A	Berium	0.160	mg/L		0,005	05/25/18 16:00 PD	05/29/18 16:47 PD
Baryllium (Be) EPA 6020A	Beryllium	BPQL	mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:47 PD
Boron (B) EPA 6020A	Boron	0.283	mg/L		0.025	05/25/18 16:00 PD	05/29/18 16:47 PD
Cedmium (Cd) EPA 6020A	Cadmium	BPQL	mg/L		0.001	05/25/18 16:00 PD	05/29/18 16:47 PD
Calcium (Ca) EPA 6010B	Calcium	182	ng/L		0.50	05/25/18 16:00 PD	05/29/18 14:17 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL	mg/L		0.010	05/25/18 16:00 PD	05/29/18 16:47 PD
Cebalt (Co) EPA 6020A	Cobalt	BPQL	mg/L		0.010	05/25/18 16:00 PD	05/29/18 16:47 PD
Lead (Pb) EPA 6020A	Lead	BPQL	mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:47 PD
Lithium (Li) BPA 6020A	Lithium	BPQL	mg/L		9,050	05/25/18 16:00 PD	05/31/18 10:57 LF
Viercury (Hg) EPA 7470A	Mercury	BPQL	ug/L		0.050	05/31/18 08:20 RW	05/31/18 14:19 RW
Molybdemum (Mo) EPA 6020A	Molybdenum	BPQL	mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:47 PD
ielenium (Se) EPA 6020A	Selenium	BPQL	mg/L		0.005	05/25/18 16:00 PD	05/29/18 16:47 PD
helium (T1) EPA 6020A	Thallium	BPQL	mg/L		100.0	05/25/18 16:00 PD	05/29/18 16:47 PD

Sample: MW-1 Dun MK-126556

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:00

Lab Log# AE24041-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride BPA 300.0	Chloride	0.949 mg/L		0.500	05/25/18 12:07 BM	05/26/18 07:08 BM
Fluoride EPA 300.0	Fhaotide	0.23 mg/L		0.10	05/25/18 12:07 BM	05/26/18 07:08 BM
Sulfate EPA 300.0	Sulfete	16.0 mg/L		0.500	05/25/18 12:07 BM	05/26/18 07:08 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	418 mg/L		25.0	05/29/18 13:08 @MH	05/31/18 15:00 @M

505 S. Lowry Street

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405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:00

Lab Log# AE24041-06

Method/Parameter	Test	Result Notes	PQL#	Prep info	Analysis Info
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	9.905	05/25/18 16:00 PD	05/29/18 16;53 PD
Arsenie (As) BPA 6020A	Artenic	0.014 mg/L	0.005	05/25/18 16:00 PD	05/30/18 L5:35 PD
Berium (Bs) EPA 6020A	Barium	0,195 mg/L	0,005	05/25/18 16:00 PD	05/29/18 16:53 PD
Baryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.001	05/25/18 16:00 PD	05/29/18 16:53 PD
Boron (B) EPA 6020A	Boron	0.092 mg/L	0.025	05/25/L8 t6:00 PD	05/29/18 16:53 PD
Cadmium (Cd) EPA 6029A	Cadmium	BPQL mg/L	9.001	05/25/18 16:00 PD	05/29/18 16:53 PD
Calcium (Ca) EPA 6010B	Calcium	100 mg/L	0.50	05/25/18 15:00 PD	05/29/18 14:20 LF
Chromium (Cr) EPA 6029A	Chromium	BPQL mg/L	0.016	05/25/18 16:00 PD	05/29/18 16:53 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	9,010	05/25/18 16:00 PD	05/29/18 16:53 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	8.005	05/25/18 16:00 PD	05/29/18 16:53 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	9,050	05/25/18 16:00 PD	05/31/18 11:19 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	05/31/18 08:20 RW	05/31/18 14:22 RW
Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L	0.003	05/25/18 16:00 PD	05/29/18 16:53 PD
Selenium (Se) EPA 6020A	Selevium	RPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:53 PD
Thallium (TI) EPA 6020A	Thellium	BPQL mg/L	100.0	05/25/18 16:00 PD	05/29/18 16:53 PD

Sample: Bignk Water MK-126557

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

5/23/18 10:37

Lab Log# AE24041-07

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis liifo
Chloride EPA 300.0	Chloride	20.6 mg/L	2.50	05/23/18 12:07 BM	05/26/18 09:15 BM
Fluorida EPA 300.0	Fluoride	0.77 mg/L	0.10	05/25/18 12:07 BM	05/26/18 08:34 BM
Sulfate EPA 300.0	Sulfate	19.5 mg/L	2.50	05/25/18 12:07 BM	05/26/18 09:15 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	152 mg/L	25.0	05/29/18 13:08 @MH	05/31/18 1.5:00 @ME
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 L6:58 PD
Arsenie (As) EPA 6020A	Amenio	0.012 mg/L	0.005	05/25/18 16:00 PD	05/30/18 15:40 PD
Barium (Ba) EPA 6920A	Barium	0.058 mg/L	0,005	05/25/18 16:00 PD	05/29/18 16:58 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0,001	05/25/18 16:00 PD	05/29/18 16:58 PD
Boron (B) EPA 6020A	Borón	BPQL mg/L	0,025	95/25/18 16:00 PD	05/29/18 16:58 PD
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	05/25/18 16:00 PD	05/29/18 16:58 PD
Calcium (Ca) EPA 6010B	Calcium	32.3 mg/L	0.10	05/25/18 16:00 PD	05/29/18 13:44 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	05/25/18 L6:00 PD	05/29/18 16:38 PD
Cebalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	05/25/18 16:00 PD	05/29/18 16:58 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:58 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.030	05/25/18 16:00 PD	05/31/18 11:23 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL mg/L	0.050	05/31/18 08:20 RW	05/31/18 14:25 RW
Molybdenum (Mo) EPA 6020A	Molybderum	BPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:58 PD
Selenium (Se) EPA 6020A	Selenium	BPQL mg/L	0.005	05/25/18 16:00 PD	05/29/18 16:58 PD
Thallium (TI) EPA 6020A	Thellium	BPQL mg/L	0.001	05/25/18 16:00 PD	05/29/18 16:58 PD

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405-372-5300

Notes and Definitions

#52	Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
#44	RPD is outside of acceptance limits. This failure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit.
PQL	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the numbe to deal with interferences/matrix affects
BPQL	Below Practical Quantitation Limit (if applicable).

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Leh ID. (Example: 12 A 92 12 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Pax: 405-372-5396

Blank Data

QC Lab#	Test Group	Yest	Result	PQL	Flaga
18EZ542-BLK1	Chloride EPA 300.0	Chloride	BPQL mg/L	0,500	
18E2542-BLK1	Fluoride EPA 300,0	Fluoride	BPQL mg/L	0.10	
18E2542-BLK1	Sulfate EPA 300.0	Sulfate	BPQL mg/L	0.500	
18B2517-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L.	25.0	
18E255 1-BLK1	Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.003	
18E2551-BLK1	Arsenic (As) EPA 6020A	Argenic	BPQL mg/L	0.005	
18E2551-BLK1	Berium (Bs) EPA 6020A	Berium	BPQL mg/L	0.005	
18E2551-BLK1	Beryllium (Bc) EPA 6020A	Beryllium	BPQL mg/L	0.001	
18E2551-BLK1	Boron (B) EPA 6020A	Boron	BPQL mg/L	0.025	
18E2551-BLK1	Cadmium (Cd) BPA 6020A	Cedmium	BPQL mg/L	0.001	
1992553-BLK1	Calcium (Ca) EPA 6010B	Calcium	BPQL mg/L	0.10	
18E2551-BLK1	Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	
18E2551-BLK1	Cobalt (Cu) EPA 6020A	Cobalt	BPQL mg/L	0.010	
18E2551-BLK1	Lead (Pb) EPA 6020A	Load	BPQL mg/L	0.005	
(8E2552-BLK)	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
1863112-BLK1	Mercury (Hg) EPA 7470A	Месошу	BPQL ug/L	0.050	
8E2551-BLK1	Molybdanum (Mo) EPA 6029A	Molybdemm	BPQL mg/L	0.005	
8E2551-BLK1	Selenium (Se) EPA 6020A	Selenium	BPQL mg/L	0.005	
8E2551-BLK1	Thallium (TI) EPA 6020A	Thallium	BPQL mg/L	0.001	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
18E2517-DUP1	Total Dissolved Solids	Total Dissolved Solids	AE24041-07	158	152	4	16	
	SM2540 C							

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Centrol Limits	Plags
18E2517-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	808	1000	mg/L	81	80 - 120	
18E2542-BS1	Chloride BPA 300.0	Chloride	2.90	3.000	mg/L	97	90 - 110	
18F2542-BS1	Pluoride EPA 300.0	Fluoride	1.93	2.000	mg/L	91	90 - 110	
18E254Z-BS1	Sulfate EPA 300.0	Sulfate	15.1	15.00	mg/L	101	90 - 110	
18E2551-BS1	Antimony (Sb) EPA 6020A	Antimony	0.106	0.1000	mg/L	106	85 - 115	
18E2551-BS1	Arsenic (As) EPA 6020A	Arsenic	0.115	0.1000	mg/L	115	85 - 115	
18E2551-BS1	Barium (Ba) EPA 6020A	Barium	0.105	0.1000	mg/L	105	85 - 115	
18E2551-B\$1	Beryllium (Be) EPA 6020A	Beryllium	0.109	0.1000	mg/L	109	85 - 115	
18E2551-B81	Boron (B) KPA 6020A	Boron	0.113	0.1000	mg/L	113	85 - 115	
18E2551-BS1	Cadmium (Cd) EPA 6020A	Cedminan	0.103	0.1000	mg/L	103	85 - 115	
(8E2551-BS1	Chromium (Cr) EPA 6020A	Chromium	0.106	0.1000	mg/L	106	85 - 115	
18E2551-BS1	Cobalt (Co) EPA 6020A	Cobalt	0.108	0.1900	mg/L	108	85 - 115	
18E2551-BS1	Leed (Pb) EPA 6020A	Lead	0.112	0.1900	mg/L	112	85 - 115	
18E2551-B81	Molybdenna (Mo) EPA 6020A	Molybdenum	0.106	9,1000	mg/L	106	85 - 115	
18E2551-BS1	Selenium (Se) EPA 6020A	Selenium	0.099	0.1000	mg/L	99	85 - 115	
8E2551-BS1	Thellium (TI) EPA 6020A	Thallium	0.106	0.1009	mg/L	106	85 - 115	
8E2552-BS I	Lithium (Li) BPA 6020A	Lithium	0.962	1.000	mg/L	96	85 - 115	
(BE2553-BS I	Calcium (Ca) EPA 6010B	Calcium	1,82	2,000	mg/L	91	85 - 115	
8R3112-BS1	Mercury (Hg) EPA 7470A	Mercury	1.7	1.667	ug/L	104	85 - 115	

Matrix Spike Data

QC Lab#	Test Group	Test Name	Source Sample	Sample Result	Units	Splice Result	Spike Level	% Rec.	Acceptance Limits	Roga
18E2551-MS1	Antimony (Sb) EPA 6020A	Antimony	AE24041-01	BPQL	rog/L	0,115	0.1000	115	85 - 115	
18E2551-MS1	Arsenic (As) EPA 6020A	Arsenic	AE24041-01	0.012	mg/L	0.111	0.1000	99	85 - 115	
18E2551-MS1	Barium (Ba) EPA 6020A	Berium	AE24041-01	0.182	mg/L	0.296	0.1000	114	85 - 115	
18B2551-MS1	Beryllium (Be) EPA 6020A	Beryllium	AE24041-01	BPQL	mg/L	0.106	0.1000	106	85 - 115	
18E2551-MS1	Boron (B) EPA 6020A	Boron	AE24041-01	0,087	mg/L	0.192	0.1000	105	85 - 115	
18E2551-MS1	Cadmium (Cd) EPA 6020A	Cadmium	AE24041-01	BPQL	mg/L	0.109	0.1000	109	85 - 115	
18E2553-MS1	Calcium (Ca) EPA 6010B	Calcium	AE24041-02	106	mg/L	117	2.000	550	85-115	#52
18E2551-MS1	Chromitan (Cr) EPA 6020A	Chromium	AB24041-01	BPQL	mg/L	0.105	0,1000	105	85 - 115	
18E2551-MS1	Cobalt (Co) EPA 6020A	Cobalt	AE24041-01	BPQL	mg/L	0.103	0.1000	103	85-115	
18E2551-MS1	Lead (Pb) EPA-6020A	Lead	AE24041-01	BPQL	mg/L	0.114	0.1000	114	85-115	
18B2552-MS I	Lithium (Li) EPA 6020A	Lithium	AE24041-01	BPQL	mg/L	1,06	1.000	106	85 - 115	
18E3112-MS1	Mercury (Hg) EPA 7470A	Mercury	AE24041-01	BPQL	ug/L	1,2	1.667	70	75 - 125	#52
18E2551-MS1	Melybdenum (Mo) EFA 6020A	Molybdenum	AE24041-01	BPQL.	mg/L	0.111	9.1000	111	85 - 115	
18B2551-MS1	Solonium (80) EPA 6020A	Selenium	AE2404I-01	BPQL	mgL	0.100	0.1000	100	85 - 115	
18P2551-MS1	Thallium (TI) EPA 6020A	Thallium	AE24041-01	BPQL	mg/L	0.112	0.1000	112	85 - 115	

505 S. Lowry Street Stillwater, OK 74074

405-372-5300

Matrix Spike Duplicate Data

QC Lab#	Test Group	Test Name	Sample Result	Splice Result	Spike Level	Units	% Rec.	Rec.	% RPD	RPD Limit	Flags
18E2551-MSD1	Antimony (Sb) EPA 6020A	Antimony	BPQL	0.118	0.1000	mg/L	118	85-115	3	20	#52
18E2551-MSD1	Arsenic (As) EPA 6020A	Arsonic	0,012	0.108	0.1000	mg/L	96	85-115	2	20	
18E2551-MSD1	Barium (Ba) EPA 6020A	Berium	0.182	0.300	0.1000	mg/L	118	85-115	1	20	#52
1822551-MSD1	Beryllium (Be) EPA 6020A	Beryllûm	BPQL	0.106	0.1000	mg/L	106	85-115	0.2	20	
18B2551-MSD1	Boron (B) EPA 6020A	Baron	0.087	0.192	0.1000	mg/L	105	85-115	0.01	20	
18B2551-M8D1	Cadmium (Cd) EPA 6020A	Codmium	BPQL	0.112	0.1000	mg/L	112	85-115	3	20	
18B2553-M8D1	Calcium (Ca) EPA 6016B	Calcium	106	112	2.000	mg/L	300	85-115	4	20	#52
18B2551-MSD1	Chromium (Cr) EPA 6020A	Chromium	BPQL	0.103	0.1000	mg/L	103	85-115	2	20	
18E2551-MSDI	Cobalt (Co) EPA 6020A	Cobalt	BPQL	0.104	0.1000	mg/L	104	85-115	ī	20	
18E2551-MSD1	Lead (Pb) EPA 6020A	Lesd	BPQL	0.115	0.1000	mg/L	115	85-115	0,5	20	
18E2552-MSD1	Lithiam (Li) EPA 6020A	Lithium	BPQL	0.999	1.000	mg/L	100	85-115	6	20	
18E3112-MSD1	Mercury (Hg) EPA 7470A	Mercury	BPQL	0.20	1.667	vg/L	12	75-125	143	20	#44, #52
18E2551-MSD1	Molybdenum (Mo) EPA 6020A	Mulybdenum	BPQ1.	0.111	0.1990	mg/L	111	85-115	0.3	20	
18E2551-MSD1	Selenium (Se) EPA 6020A	Solentum	BPQL	0.097	0.1000	mg/L	97	85-115	3	20	
8E2551-MSD1	Thellinm (TI) EPA 6020A	Thallium	BPQL	0.112	0.1000	mg/L	112	85-115	0.4	20	

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	Custody	J.#>	Jaþ>
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1357 GW G MW-5 MK-124.555 Ity Trabbility	X X X X X	7	-
mg/L (E.Coll)= mg/L (E.Coll)= poster; WW = Housewater; SL = States; O = Other 200 St. Calcium (EPA 2004), Caloride (EPA 300), Flurida (EPA 300), Shiften (EPA 300), Calcium (EPA 2004), Caloride (EPA 300), Flurida (EPA 300), Shiften (EPA 30	X X X	7.	
200 St. Calcium (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Suibae (EPA 300), Suibae (EPA 300), Fluoride (EPA 300), Suibae (EPA 300), Suibae (EPA 300), Fluoride (EPA 300), Fluor	F. Marie W. A. Steinsbilder, S. Prink Reid.	(Date of Time w.	· · · · · · · · · · · · · · · · · · ·
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WYW.ACCUTAICHAIGH BACON 505 South Lowry Street Phone: (405) 372-5300 6558 B. 40 th Street: At 74074 Fac: (405) 372-5396 Tules, OK 74074 Fac: (405) 372-5396 Tules, OK 74074 Fac: (405) 372-5396	6558 E. 40th Street Phone: (918) 663-53409 12034 N. Peninsiyiyanta (1380) 663-6300 Oklahama Ci., Ok. 72170 Tan. 1465	ione: (405) 75)	751-3132

(1999年) 1997年 (1990年) 1990年 (1990年) (1990 12036 N. Perins North Phone (405) 751-3122 Oklahoma Cit., OK 73120 Fex. (405) 751:3108 C001 <\$.C Fluoride (EPA 300) ×× -- Hazar Jous sam les will be returned to client or will be dis case o for a fee ---- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. 1111 81-111 1505 (EPA 245.1) × C00] <4°C -- All Glass containers provided by Accurate Labs have Tellon lined lids he-9 NW DetecTime System (405) 553-4063 5-23-18 Date/Line base 022 multas 93 C001 <4°C THE CHILD THE STATE OF THE comments) Sample Method: Grak HINO3 XIX Metals* (see C001 <4°C Due Date Bid#-PO#-Fax #: XIX REPORT IN LDS J. 4> 100) APVendorInvoices@oge.com enting. Mettry Petrol Standards 11.35 Boron, Calcium, Chloride, Fluoride, RUSH × Mail Invoice Ic. Email invoice to: (6558 E. 40" Street Phonic (1918) 663-5400 Tube, OK 74074 Fox: (918) 663-6300 (553-4079) (pH. Tent. Chlorite. Field Results Company Oklahoma Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Reserved By D. Received attable Address Phone #: Chain of Custody Charles 28 Boron (EPA 200.8), Calcium (EPA 200.7), Chloride (EPA 300), Flooride (EPA 300), Sulfate (EPA 300), *Antimorty, Assenia, Barlum, Baryllium, Cadanium, Chronium, Cothait, Lead, Lithium, Molyddenum, Selenium, Thallium worker de nest influences of Filtership Stream GWUDI.RL. Granuschwarer worker der not influence of Rea MK-D4556 Clear D. Sample Location DEC BEA Location Code MR- (26557 Certain Callana D. Company Official Variational Parties in a second second and the second sec Official P. P. P. P. S. S. D. W. 305 アンナー18/1111 Date Time 505 South Lowry Street Phome. (405) 372-5300 Stillwatter, OK 74074 Pax.: (405) 372-5396 OICHE Blank Water MW-1 DUP Date/Time EBX#: (405) 553-4063 Ş SL - Madge; ទ PWS, Yes Olient Name Meil Report To SmithsCA @ oge.com. dowta@oge.com Φ O あの時 (DAR. " Complete Entire COC to be in Compliance WW ... Wasterpater; ₩Đ GW Reporting 事があり 1 rd a Joshan Remainded Br. M. A. a. 1500 cm 100 1037 Fl. Gibson, OK 74434 5501 Three Forts Road DW - Orinbriguener; CWUDI-FS- Groundhate Phona #: (405) 553-4079 Email: Orselle 1616" ... Raw Allanlinity 5/23/18 5/23/18 Reporting Requirements (standard 10-15, working clays) (TOC Ray)= www.accuratelabs.com (800) 516-5227 C Relo'd to Los-in Prides By Accurate Environmental Labs Sampled By: Matrix Codes **EPA 200.8**3 Addness



July 05, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National Errebeam Laboratory Arreditor Kansas CERT# E-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

May 24, 2018

Time: 11:11

sample temp upon arrival at lab = 2°C - On Ice

Matrix:

Water

Lab Log Numbers:

AE24042-01 AE24042-05

AE24042-02 AE24042-06

AE24042-03

AE24042-04

Work Order:

AR24042

Report #

AE24042-0705181105

EPA Lab ID#'s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahome Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH BLAP Lab ID # 2072

Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater,

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126551

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:00

Lab Log# AE24042-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9329 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0,839	06/11/14 11:16	06/26/18 14:28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.579 pCi/L			06/11/18 11:16	06/26/18 14:28
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.375	06/04/18 13:39	06/08/18 12:12
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.351 pCi/L			06/04/18 13:39	06/08/18 12:12

Sample: MW-2 MK-126552

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 11:43

Lab Log# AE24042-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.955	06/11/18 11:16	06/26/18 14:28
Radium 228 - EPA 904/9320 (Cart #9517/D9923)	Uncertainty +/-	0.719 pCi/L			06/13/18 11:16	06/26/18 14:28
Radium 226 - SM7500RaB (Cert	Radium 226	0,573 pCl/L		0.383	06/04/18 13:39	06/08/18 12:43
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.481 pCi/L			06/04/18 13:39	96/08/18 12:43

Sample: MW-3 MK-126553

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 12:08

Lab Log# AE24042-03

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert 99517/D9923)	Redium 228	BPQL pCi/L	0.898	06/11/18 11:16	06/26/18 14:28
Radium 228 - EPA 904/9120 (Cert 19517/D9923)	Uncertainty +/-	0.637 pCi/L		06/11/18 11:16	06/26/18 14:28
adium 226 - SM7500RaB (Cert 9517/D9923)	Radium 226	0.629 pCi/L	0.369	06/04/18 13;39	06/08/18 13:13
tadium 226 - SM7500RaB (Cert	Uncertainty +/-	0.488 pCi/L		06/04/18 13:39	06/08/18 13:13

Sample: MW-4 MK-126554

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 12:32

Lab Log# AE24042-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Infe
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.903	06/11/18 11:16	06/26/18 14:28
Radium 228 - EPA 904/9320 (Cert 99517/D9923)	Uncertainty +/-	0,676 pCi/l.			06/11/18 11:16	06/26/18 14:28
Radium 226 - SM7500RaB (Cert 99517/D9923)	Radium 226	0.548 pCi/L		0.366	06/04/18 13:39	06/08/18 13:43
Radium 226 - SM7500RaB (Cert 9517/D9923)	Uncertainty +/-	0.460 pCi/L			06/04/18 13:39	06/08/18 13:43

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-5 MK-126555

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 12:57

Leb Log# AE24042-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	1,12 pCi/L		1.12	06/11/18 11:16	06/26/18 14:28
Radium 228 - EPA 904/9320 (Cert	Uncertainty +/-	0.597 pCi/L			06/11/18 11:16	06/26/18 14:28
Radium 226 - SM7509RaB (Cert	Redium 226	BPQL pCi/L		0.407	06/04/18 13:39	06/08/18 14:13
Radium 226 - SM7500RaB (Cert 89517/D9923)	Uncertainty +/-	0,341 рСі/І.			06/04/18 13:39	06/08/18 14:13

Sample: Blank Water MK-126557

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

5/23/18 10:37

Lab Log# AE24042-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert F9517/D9923)	Radium 228	BPQL pCi/L		1,01	06/11/18 11:16	05/26/18 14:28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.560 pCi/L	·		06/11/18 11:16	06/26/18 14:28
Radium 226 - SM7500RaB (Cert 99517/D9923)	Redium 226	BPQL pCi/L		0.393	06/04/18 13:39	06/08/18 14:43
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.164 pCi/L			06/04/18 13:39	06/08/18 14;43

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

MCL Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutious or office changes made to the sample to deal with PQL.

interferences/matrix effects

Below Practical Quantitation Limit (if applicable).

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 22 12 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18G0526-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redium 228	BPQL pCi/L	0.587	
18G0527-BLK1	Radium 226 - SM7509RaB (Cert #9517/D9923	Radium 226	BPQL pCI/L	0.191	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

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	Chain of Custody	CCR Groundwater	125	(655.)	2.5591	F35 W	13531) (a manu) - 4 (a), Sulfate (E n, Selenium,	Signature	any: Oklah		124	Oklahoma PWS ID #				6558 E. 40th Street
	of (Somple Les	MK-12655	MK- 12655	MK- (365573	MK-	MIK- I		ntu Other mahasta undo di	de (EPA 30 Molybdenus	ariod ir.	Company	20,5 %	/ 188	30			ı	
	ain	CCR Groundwa Clientino, Sample Lecanor or DEQUIPM Location Code	MW-I	MW-2	MW-3	MW-4	MW-5	-	1; O to Other	300), Fluori c, Lithium,	ned during a pe		Date/Time	S-34-12	No.			553-4063	(405) 372-5300
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		G MF	D W	G	D W	G M	Idity	Si Shades	7), Chloride (EPA minn, Colbalt, Lea 9-34 - [- [-	repling cocus				Yes or PWS,	THO:		~	Phone: (
	Cilent Name		GW	GW	GW	GW	GW		mg/L (S.Coll)= Varianater; SL:	200.7, Ch Ziromium,	tibe above sa	pao			(DMR,	ta@oge.i		EEX#: (405	rv Street
		Ting.	1100	-13	308	1877	1327		(TOC Rany) = 1184 (TOC Rany) = 1184 DW = Drinkingwater; WWW = Wattowater; SL = Studge; O = Orber CWIBILISE - Grandwater new Yorks in France Stress Stress (WUBI-RE - Grandwater new of Reservet Law	Configuration Berium, Berni (EPA 200.8), Calcium (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Sulfate (EPA 300), Antenic, Berium, Berlium, Cadmium, Chromium, Colhat, Lead, Lithium, Modyldenum, Selenium, Thellium (EPA 200.8) (a) Color Color Color Color Color Color Calcium, Color	Certification by Company Official I berein certify that the above assuping cocured dening a period such that the same let his false centeralistive of a ryskel centering the disclaims for the above facility.	Sport of	S. Les	X.	Compliance Reporting?	Mail Report To SmithsCA/1910ge.com, dowtal@oge.com	4434		505 South Lowry Street
		And the second second	•		_	1		dintry	kingweter;	Boron (EPA 200.8), Calcin alc, Berium, Becyllium, Cal Cov r PC 10 u.c.	Official: T	120	10	17 T	46.136	SmithsCA/q oge.com	Ft. Gibson, OK 74434	4079	
100	Accilrate Levimonicials	Wings.	5/23/18	5/23/18	5/23/18	5/23/18	5/23/18		(TOC Raw)= DW = Duthkingwater; WIIBL-PS= Groundstoner	Boron (E rente, Barriun (Lov	v Company	11000	M. a.f.	Leb By: n Frider By:	All residents	Smiths (Fr Gibs	(405) 553-4079	rtelabs,co
	A CCC	Wolfer Wolf Street	101		103	100	107	Oriestie Judo	Matrix Codes	Conjuscity, Andrews,	lification b	Sampled Bx	Relinquished Bv.	C Reinquisted to Lab By	Reporting Residentials	Mail Report To Address:		Phone #: (40 Email:	www.accuratelabs.com

12036 N. Pennsylvania Phone: (405) 751-3132 Oktabous City, OK 73120 Fax: (405) 751-3108 Fluoride (BPA 300) C001 <4°C Initials (Working Days) - Handy our sam has will be returned to client or will be dis oved of or a tee--- All samples are scheduled to be disposed of in 4 weeks of receipt of Accurate. 7711 87 35-35 1505 -- All Glass containers provided by Accurate Labs have Teston lined lids Cool e4°C こったい (405) 553-4063 ဝေဝဟာဝှာရေ 5-23-18 × Date/Line «Radium 226 and 228 J. >> 100) (आक्सामा Sample Method: EONH Rec'd 70 Sas) islaiold Due Date C001 <4°C A State of Business Collection 3 Bid# -RUSH Request ₩04 12036 N. Pennsylvania (if available) Fax #: Final Read. tD? C001 <4°C Address APVendorInvoices@oge.com Chlonds, Fluedde, RUSH Boton, Calcie C001 <4°C Mad Invoice To: Email invoice to: 8 (918) 663-5400 (918) 663-6360 Meter Type (553-4079 Company: Oklahoma Gas & Electric CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone: Fax: Received at Lab By: Received By. A. Chain of Custody Phone #: the Strange GWUDL-RL. Groundstate made direct influence of Reservolvillate E. Coll Nuive. GWUDLES-Groundstrate area among a reconstruction (EPA 300), Fluoride (EPA 300), Suithte (EPA 300), Colline (EPA 300), Fluoride (EPA 300), Suithte (EPA *Antunony, Arsenic, Bartum, Beryllium, Cadmium, Chromiam, Colbait, Lead, Liftium, Molybdenum, Selenium, Thalium 6558 E. 40th Street Tulsa, OK 74074 neighen Gede C (Ca ... *** Signature : MK-126557 Oklahoma PWS ID# NATURE NO. O. O. O. 5-24-18/1111 (405) 372-5300 (405) 372-5396 Certification by Company Official: I bereby certify that the above sampling commed during a period O = Other Blank Water はなけるか DateTime Eax#: (405) 553-4063 such that the sampless) islane representative of a typical openities day the hunge for the above 37-26-19 No Yes or WW = Wassewater; SL - Studge 505 South Lowry Street Phone: Stillwater, OK 74074 Par. (DMR, PWS, Project Name. Mail Report To SmithsCA@oge.com, dowta@oge.com Tarbidity O (EColi)# ClientName * Complete Entire COC to be in Compliance GWUDI-FS... Groundwater under afterst auffrence of Flor Ø₩ Corector Compliance Reporting? Sampled Br. M. School Sonlan Michal Borden Sample Time 682 11.00 5501 Three Forks Road Ft. Gibson, OK 74434 DW - Drinkingwater; On Site lato Raw Alkalinity (405) 553-4079 C Rela'd to Los-in Friden. By: (TOC Raw)= 5/23/18 www.accurafelabs.com (800) 516-5227 まるから A courate Environmental Labs D Refinantished to Leb By: Chort Refinguished By: 3 Marts Codes (EPA 200.8) Phone #: ò Address:

Sampling Log

Sample ID	Date: 6-14-2018
Sample 10	Weather Conditions and Temperature: Clear 8/
Field Samplers	Names Jason Childress, Jermy Blodgett, Micheal J
	Groundwater Level (ft below TOC): 10'1" To: 20'3"
MW01	Sample Time: 10:01
	Purge Volume: 5.1 gal Field pH: 6.97 (1010
elleranteralise of the second	Groundwater Level (ft below TOC):: 4'4" To: 20'1"
347000	Sample Time: 10:30
MW02	Purge Volume: 8.16 gal Field pH: 6.90 (10.40)
	Comments:
	Groundwater Level (ft below TOC):: 8'/" 70: 21'6"
MW03	Sample Time: //:/0
	Purge Velume: 7.14 gal Field pH: 6.82 (1120)
	Comments:
	Groundwater Level (ft below TOC):: 10'6" 5! 22'3"
3433404	Sample Time: //:40
MW04	Purge Volume: 6,12 90 Field pH: 6.68 (1147)
	Comments:
pagaga	Groundwater Level (ft below TOC):: 9'8" 15: 21'7"
MW055	Sample Time: /2'05
141 M 623	Purge Volume: 6.12 gol Field pH: 6.80 (1215)

Additional Notes:

Groundwater Velocity

Date: 6/14/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 µm/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - M	W2:				
dh =	1.247	MW1 =	509	10.083	498.917
di=	1053.2	MW2 =	502	4.33	497.67
i = dh/di =	0.001184011				
V = KI/n =	2.86326E-07 ft/	/sec = 0.087272	μm/sec		
MW1-M	N3:				
dh =	2	MW1 =	509	10.083	498.917
dl =	1390	MW3 =	505	8.083	496.917
I = dh/dl =	0.001438849				
V = KI/n =	3.47953E-07 ft/	sec = 0.106056	μm/sec		
MW5 - MV	V4:				
dh =	-0.17	MW5 =	506	9.67	496.33
dl =	326.21	MW4 =	507	10.5	496.5
I = dh/dl =	-0.000521137				
V = KI/n =	-1.26025E-07 ft/s	sec = -0.03841	μm/sec		
MW5 - MV	/3:				
dh =	-0.587	MW5 ≃	506	9.67	496.33
di =	773.75	MW3 =	505	8.083	496.917
i = dh/di =	-0.000758643				
V = KI/n =	-1.83461F-07 ft/s	sec = -0.05592	um/sec		

Attachment 2 : Groundwater Flow Direction Field Notes

6-14-18	
WI-MUZ-1648 HG: 0,00678 ST/ST	
Dof: 144.83° Charlesisa From	a True North
WI-MAS MUSS HE: 0.00392 St/St	
Dot: 175.67° Clockers Som	True North
UI-MUZ-MUS 144: 0.0036 ft/st	
Dof: 187.59° clockise Som	True North
WEARS-AND HE: DOOLY ST/ST	
Dof: 277.59 clockwise Sman	Tour North
U-MUS-MUST HG: 0.0012 St/St	Environmental ligidificate de las entre es
Dof: 248.13° clockwise Ston	True Horth
DI-MO4-MOS! HEN' O. OOIRI ST/ST	
DOF! 270,150 clockwise from	Toma North
12-MUS-MUYE HG: 0,00512 FH/SH	
DOF: 183.3° Checkwise from	Tour North
12-12-125 HG: 0.00326 SH/SH	
Dof: 185.19° clockwise from	True North
102-MUY-MUS HG: 0,01105 SH/SH	Witness and difficulties of all production and discourse berupping
Do6: 36.65° clockerse from	True Month
13-MUSE MUSE 146: 0.00126 St/St	man areas a many services of a service of the services of the services of the service of the ser
Dof: 14.37° clockwise from	on True North
The state of the s	



June 25, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



Environ Accreditatio Program Kansas CERT # E-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

June 15, 2018

Time: 10:14

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Water

Lab Log Numbers:

AF15023-01 AF15023-05

AF15023-02 AF15023-06

AF16023-03 AF15023-07

AF16023-04

Work Order:

AF15023

Report#

AF15023-0625181004

EPA Lab ID#'s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Oklahoma Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072 Stillwater Drinking Water NELAP CERT # T105704533-14-1

Texas Certification: Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MK-126589

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:01

Lab Log# AF15023-01

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Inft
Chloride BPA 300.0	Chloride	0.822 mg/L	0.500	06/19/18 09:56 BM	06/21/18 00:11 BM
Fluoride EPA 300.0	Fluoride	0.24 mg/L	0.10	06/19/18 09:56 BM	06/21/18 00:11 BM
Sulfate EPA 300,0	Sulfate	12.8 mg/L	5,00	06/19/18 09:56 BM	06/19/18 17:07 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	413.0 mg/l.	25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	06/18/18 16:00 RW	06/19/18 22:59 PD
Arsenic (As) EPA 6020A	Arnenic	BPQL mg/L	0,005	06/18/18 16:00 RW	06/19/18 22:59 PD
Barium (Ba) EPA 6020A	Barium	0.170 mg/L	0,005	06/18/18 16:00 RW	05/19/18 22:59 PD
Beryllium (Bc) EPA 6020A	Beryllium	BPQL mg/L	0,001	06/18/18 16:00 RW	06/19/18 22:59 PD
Boron (B) EPA 6020A	Boron	0.079 mg/L	0.025	06/18/18 16:00 RW	06/20/18 17:14 LF
Cadminum (Cd) EPA 6020A	Codmium	BPQL mg/L	100.0	06/18/18 16:00 RW	06/19/18 22:59 PD
Calcium (Ca) EPA 6010B	Calcium	112 mg/L.	0.50	06/18/18 16:00 RW	06/20/18 14:58 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	06/18/18 16:00 RW	06/19/18 22:59 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.018	06/18/18 16:00 RW	06/19/18 22:59 PD
Load (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	06/18/18 16:00 RW	96/19/18 22:59 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	06/18/18 16:00 RW	06/20/18 1]:47 LF
Mercury (Hg) EPA 7470A	Метему	BPQL ug/L	0.050	06/20/18 08:30 RW	06/20/18 14:30 rw
Molybdemum (Mo) EPA 6020A	Molybdenum	BPQL mg/L	0.005	06/18/18 16:00 RW	06/19/18 22:59 PD
elenium (Se) EPA 6020A	Selenium	BPQL mg/L	0.005	06/18/18 16:00 RW	06/19/18 22:59 PD
hallium (TI) EPA 6020A	Thallium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/19/18 22:59 PD

Sample: MW-2 MW-126590

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15023-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	36.3 mg/L		5.00	06/19/18 09:56 BM	06/19/18 18:11 BM
Fluoride EPA 300,0	Fluoride	0.23 mg/L		0.10	06/19/18 09:56 BM	06/21/18 00:53 BM
Sulface EPA 300.0	Sulfate	94.5 mg/l.		5.00	06/19/18 09:56 BM	06/39/18 18:11 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	580.0 mg/L		25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:26 PD
Arsenic (As) EPA 6020A	Arsenic	BPQL mg/L		0,805	06/18/18 16:00 RW	06/19/18 23:26 PD
Barium (Ba) EPA 6020A	Bartum	0.225 mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:26 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0.001	06/18/18 L6:00 RW	06/19/18 23:26 PD
Beron (B) EPA 6020A	Boron	9.217 mg/L		0.025	06/18/18 16:00 RW	06/20/18 17:19 LF
Cadmium (Cd) EPA 6029A	Cadmium	RPQL mg/L		0.001	06/18/18 16:00 RW	06/19/18 23:26 PD
Calcium (Ca) EPA 6010B	Calcium	128 mg/L		0.50	06/18/18 16:00 RW	06/20/18 15:00 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	06/18/18 16:00 RW	06/19/18 23:26 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L		0.010	06/18/18 16:00 RW	06/19/18 23:26 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:26 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0,050	06/18/18 16:00 RW	06/20/18 11:51 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L		0.050	06/20/18 08:30 RW	06/20/18 14:33 rw

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Sample:

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15023-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:26 PD
Selenium (Se) EPA 6020A	Selenium	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:26 PD
Thallium (T1) RPA 6020A	Thallium	BPQL mg/L		0.001	06/18/18 16:00 RW	06/19/18 23:26 PD

Sample: MW-3 MK-126591

Location Code:

PWSED#:

Collection Type: Grab

Sample Time:

6/14/18 11:10

Lab Log# AF15023-03

Method/Parameter	Test	Result	Notes P	'QL#	Prep Info	Analysis Infe
Chloride EPA 300.0	Chloride	162 mg/L		12,5	06/19/18 09:56 BM	06/19/18 18:32 BM
Fluoride EPA 300.0	Fluoride	0.18 mg/L	(0.10	06/19/18 09:56 BM	06/21/18 01:14 BM
Sulfate EPA 300.0	Sulfate	188 mg/L	1	12,5	06/19/18 09:56 BM	06/19/18 18:32 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1127 mg/L	2	25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0	.005	06/18/18 16:00 RW	06/19/18 23:36 PD
Arsenio (As) EPA 6020A	Arsonic	0.006 mg/L	0	.005	06/18/18 16:00 RW	06/19/18 23:36 PD
Barium (Ba) EPA 6020A	Barium	0.335 mg/L	0	.005	06/18/18 16:00 RW	06/19/18 23:36 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.	.001	06/18/18 16:00 RW	06/19/18 23:36 PD
Boron (B) EPA 6020A	Boron.	0.065 mg/L	0.	.025	06/18/18 16:00 RW	06/20/18 17:24 LF
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.	.001	06/18/18 16:00 RW	06/19/18 23:36 PD
Calcium (Ca) HPA 6010B	Caloium	236 mg/L	0	.50	06/18/18 16:00 RW	06/20/18 15:03 LF
Chromium (Cr) EPA'60Z0A	Chromium	BPQL mg/L	0.	010	06/18/18 16:00 RW	06/19/18 23:36 PD
Cobalt (Co) EPA 6020A	Cobult	BPQL mg/L	0.	010	06/18/18 16:00 RW	06/19/18 23:36 PD
Losd (Fb) EPA 6020A	Lead	BPQL mg/L	0.	005	06/18/18 16:00 RW	06/19/18 23:36 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.	050	06/18/18 16:00 RW	06/20/18 11:55 LF
Mercury (Hg) BPA 7470A	Мессину	BPQL ng/L	0.	050	06/20/18 08:30 RW	06/20/18 14:37 ew
Molybdenum (Mo) BPA 6020A	Molybdenum	0,006 mg/L	0.	005	06/18/18 16:00 RW	06/19/18 23:36 PD
Scienium (Se) EPA 6020A	Scientum	BPQL mg/L	0.	005	06/18/18 16:00 RW	06/19/18 23:36 PD
Challiam (T1) EPA 6020A	Thallism	BPQL mg/L	0.	001	06/18/18 16:00 RW	06/19/18 23:36 PD

Sample: MW-4 MK-126592

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 11:40

Lab Log# AF15023-04

Method/Parameter	Test	Result N	oles PQL#	Prep Info	Analysis Info
Chloride EPA 300,0	Chloride	138 mg/L	25,0	06/19/18 09:56 BM	06/19/18 18:53 BM
Fluoride EPA 300.0	Fluorida	0.16 mg/L	0.10	06/19/18 09:56 BM	06/21/18 01:36 BM
Sulfate EPA 300.0	Sulfate	339 mg/L	25.0	06/19/18 09:56 BM	06/19/18 18:53 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1454 mg/L	25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	06/38/38 16:00 RW	06/19/18 23:47 PD
Arsenic (As) EPA 6020A	Arrenic	0.007 mg/L	0.005	06/18/18 16:00 RW	06/19/18 23:47 PD
Berinn (Ba) EPA 6020A	Berinn	0,251 mg/L	6.005	06/18/18 16:00 RW	06/19/18 23:47 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/19/LE 23:47 PD
Boron (B) EPA 6020A	Boron	0.068 mg/L	0.025	06/18/18 16:00 RW	06/20/18 17:30 LF
Cadmium (Cd) EPA 6020A	Cadmium	BPQ1. mg/L	0.001	06/18/18 16:00 RW	06/19/18 23:47 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Location Code:

I WOLUT.

Collection Type: Grab

Sample Time:

6/14/18 11:40

Lab Log# AF15023-04

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Caleium (Ca) EPA 6010B	Calcium	340 mg/L	0,50	06/18/18 16:00 RW	06/20/18 15:06 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	06/18/18 16:00 RW	06/19/18 23:47 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	06/18/18 16:00 RW	06/19/18 23:47 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.003	06/18/18 16:00 RW	06/19/18 23:47 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	06/18/18 16:00 RW	06/20/18 11:59 LF
Mercury (Hg) EPA 7470A	Mercury	RPQL ug/L	0.050	06/20/18 08:30 RW	06/20/18 14:46 rw
Molybdenum (Mo) EPA 6020A	Molybdamm	0.006 mg/L	0.005	06/18/18 16:00 RW	06/19/18 23:47 PD
Selenium (Se) EPA 6020A	Selevium	BPQL mg/L	0.005	06/18/18 16:00 RW	06/19/18 23:47 PD
Thallium (TI) EPA 6020A	Thellium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/19/18 23:47 PD

Sample: MW-5 MK-126593

Location Cede:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 12:05

Lab Log# AF15023-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300,0	Chlorido	24.6 mg/L		2.50	06/19/18 09:56 BM	06/21/18 09:32 BM
Fluoride EPA 300.0	Fluoride	0.16 mg/L		0.10	06/19/18 09:56 BM	06/21/18 03:21 BM
Sulfirte EPA 300.0	Sulfate	144 mg/L		12.5	06/19/18 09:56 BM	06/19/18 19:14 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	867.0 mg/L		25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:58 PD
Armenic (As) EPA 6020A	Arsenie	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:58 PD
Barium (Ba) EPA 6020A	Bartum	0,142 mg/L		0,005	06/18/18 16:00 RW	06/19/18 23:58 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L		0.001	06/18/18 16:00 RW	06/19/18 23:58 PD
Boroz (B) EPA 6020A	Boron	0.247 mg/l.		9.025	06/18/18 16:00 RW	06/20/18 17:36 LF
Cudmium (Cd) EPA 6020A	Cedmium	BPQL mg/L		0.001	06/18/18 16:00 RW	96/19/18 23;58 PD
Calcium (Ca) EPA 6010B	Calcium	204 mg/L		0.50	06/18/18 16:00 RW	06/20/18 15:09 LF
Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L		0.010	06/18/18 16:00 RW	06/19/18 23:58 PD
Cobair (Co) EPA 6020A	Cohalt	BPQL mg/L		0.010	06/18/18 16:00 RW	06/19/18 23:58 PD
Lead (Pb) EPA 6020A	Lord	BPQL mg/L		0.005	06/18/18 16:00 RW	06/19/18 23:58 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	06/18/18 16:00 RW	06/20/18 12:04 LF
Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L		0.050	06/20/18 08:30 RW	06/20/18 14:49 rw
Molyhdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L		0,003	06/18/18 16:00 RW	06/19/18 23:58 PD
ielenium (Se) BPA 6020A	Selenium	BPQL mg/L		0.005	96/18/18 16:00 RW	06/19/18 23:58 PD
hallium (TI) EPA 6020A	Thallfirm	BPQL mg/L		100.0	06/18/18 16:00 RW	06/19/18 23:58 PD

Sample: MW-2 Dun MK-126594

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15023-06

Method/Parameter	Rent	Result	Notes	PQL#	Prep.Info	Analysis Info
Chloride EPA 300.0	Chloride	36.6 mg/L		5.00	06/19/18 09:56 BM	06/19/18 19:35 BM
Fluoride EPA 300.0	Physride	0.26 mg/L		0,10	06/19/18 09:56 BM	06/21/18 01:57 BM
Sulfate EPA 300.0	Sulfate	95,6 mg/L		5,60	06/19/18 09:56 BM	06/19/18 19:35 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	595.0 mg/L		25.0	06/20/18 10:22 CL	06/21/18 15:22 CL

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Attachment 2 : Analytical Report

Page 4 of 9

AF15023-0625181004

SHAHING.

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15023-06

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0,005	06/18/18 16:00 RW	06/20/18 00:09 PD
Arsenic (As) BPA 6020A	Arsenic	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:09 PD
Barium (Ba) EPA 6020A	Barium	0.226 mg/L	9.005	06/18/18 16:00 RW	05/20/18 00:09 PD
Beryllium (He) BPA 6020A	Beryllium	BPQL mg/L	0,001	06/L8/18 16:00 RW	06/20/18 00:09 PD
Boron (B) EPA 6020A	Boson	0.216 mg/L	0.025	06/18/18 16:00 RW	06/20/18 17:41 LF
Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/20/18 00:09 PD
Calcium (Ca) EPA 6010B	Calcium	130 mg/L	9,50	06/18/18 16:00 RW	06/20/18 15:12 LF
Chromium (Cr) EPA 6020A	Chrominn	BPQL mg/L	0.010	96/18/18 16:00 RW	06/20/18 00:09 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	06/18/18 16:00 RW	06/20/18 00:09 PD
Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:09 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0,050	06/18/18 16:00 RW	06/20/18 12:08 LF
Mercury (Hg) EPA 7470A	Moreary	BPQL ug/L	0.050	06/20/18 08:30 RW	06/20/18 14:52 rw
Molybdonum (Mo) EPA 6020A	Molybdenum	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:09 PD
Selenium (Sc) EPA 6020A	Scknium	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:09 PD
Thellium (TI) EPA 6020A	Thallium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/20/18 00:09 PD

Sample: Blank Water MK-126595

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 12:26

Lab Log# AF15023-07

Metbod/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Infe
Chloride EPA 300.0	Chloride	BPQL mg/L	0,506	06/19/18 09:56 BM	06/19/18 19:56 BM
Physride EPA 300.0	Fluorido	BPQL mg/L	01.0	06/19/18 09:36 BM	06/21/18 12:03 BM
Sulfate EPA 390.0	Sulfate	BPQL mg/L	0,500	06/19/18 09:56 BM	06/19/18 19:56 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25.0	06/20/18 10:22 CL	06/21/18 15:22 CL
Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0,005	06/18/18 16:00 RW	96/20/18 00:36 PD
Amenic (As) EPA 6020A	Arzenic	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:36 PD
Barium (Bs) EPA 6020A	Barton	BPQL mg/L	0,005	06/18/18 16:00 RW	06/20/18 00:36 PD
Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.001	06/18/18 16:00 RW	06/20/18 00:36 PD
Boron (B) EPA 6020A	Boron	BPQL mg/L	0.025	06/19/18 16:00 RW	06/20/18 17:46 LF
Cadmium (Cd) EPA 6020A	Cadmiun	BPQL mg/L	0.001	06/18/18 16:00 RW	06/20/18 00:36 PD
Calcium (Ca) EPA 6010B	Calcium	BPQL mg/L	0,10	06/18/18 16:00 RW	06/20/18 14:26 LF
Chromium (Cr) EPA 6020A	Chromism	BPQL mg/L	0.010	06/18/18 16:00 RW	06/20/18 00:36 PD
Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0,010	06/18/18 16:00 RW	06/20/18 00:36 PD
Load (Pb) BPA 6020A	Lead	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 G0:36 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	96/18/18 16:00 RW	06/20/18 12:25 LF
Macoury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.050	96/20/18 08:30 RW	06/20/18 14:55 rw
Molybdenum (Me) EPA 6020A	Molybdeman	BPQL mg/L	0,005	06/18/18 16:00 RW	06/20/18 00:36 PD
Selenium (Se) EPA 6020A	Selenium	BPQL mg/L	0.005	06/18/18 16:00 RW	06/20/18 00:36 PD
Thallinum (TI) EPA 6020A	Thallium	BPQL mg/L	0,001	06/18/18 16:00 RW	06/20/18 00:36 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Notes and Definitions

#52 Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported. Analyte concentration may exceed Maximum Conteminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations. MCL Analyte concentration may exceed regulatory limit. Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes usade to the sample to deal with PQL interferences/matrix effects Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 02 LI - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18F1902-BLK1	Chloride EPA 300,0	Chloride	BPQL mg/L	0.500	
18F1902-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0,10	
18F1902-BLK1	Sulfato EPA 300.0	Sulfate	BPQL mg/L	0.500	
18F2043-BLKI	Total Dissolved Solids SM2540 C	Total Dissulved Solids	BPQL mg/L	25.0	
18F1853-BLK1	Antimony (Sb) EPA 6020A	Antimony	BPQL mg/L	0.005	
18F1853-BLK1	Attenic (As) EPA 6020A	Arrenic	BPQL mg/L	0.005	
18F1853-BLK1	Barium (Ba) EPA 6020A	Barian	BPQL mg/L	0.005	
18F1853-BLK1	Beryllium (Be) EPA 6020A	Beryllium	BPQL mg/L	0.001	-
18F1853-BLK1	Boron (B) EPA 6020A	Boron	BPQL mg/L	0.025	
18F1853-BLK1	Cadmium (Cd) EPA 6020A	Cadmium	BPQL mg/L	0.001	
18F1854-BLK1	Calcium (Ca) EPA 6010B	Calcium	BPQL mg/L	0.10	
18F1853-BLK1	Chromium (Cr) EPA 6020A	Chromium	BPQL mg/L	0.010	
18F1853-BLK1	Cobalt (Co) EPA 6020A	Cobalt	BPQL mg/L	0.010	
18F1853-BLK1	Lead (Pb) EPA 6020A	Lead	BPQL mg/L	0.005	
8F1853-DLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
18F2039-BLK1	Mercury (Hg) EPA 7470A	Mercury	BPQL ug/L	0.030	
&F1853-BLK1	Molybdenum (Mo) EPA 6020A	Molybdenum	BPQL mg/L	0.905	
8F1853-BLK1	Selenium (Se) HPA 6020A	Selenium	BPQL mg/L	0.005	
8F1853-BLK1	Thalikum (TI) EPA 6020A	Thellium	BPQL mg/L	6.001	

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LC8 Result	Spike Level	Units	% Rec.	Contra) Limits	Flags
18F1902-BS1	Chloride EPA 300.0	Chlorida	2.98	3.000	mg/L	100	90 - 110	
18F1902-BS1	Finoride EPA 300,0	Fluoride	2.07	2.000	mg/L	104	90 - 110	
18F1902-BS1	Sulfate EPA 300.0	Sulfate	15.3	15.00	mg/L	102	90 - 110	
18F2043-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	980.0	1000	mg/L	98	80 - 120	
18F1853-BS1	Antimony (Sb) EPA 6020A	Antinomy	0.098	0.1000	mg/L	98	85 - 115	
18F1853-BS1	Arsenic (As) EPA 6020A	Argenia	0,100	0,1000	mg/L	100	85 - 115	
18F1853-B\$1	Barium (Be) EPA 6020A	Barium	0.099	0.1000	mg/L	99	85 - 115	
18F1853-BS1	Baryllium (Be) EPA 6020A	Beryllium	0.105	0.1000	mg/L	105	85 - 115	
18F1853-B81	Boron (B) EPA 6020A	Boron	0.096	0.1000	mg/L	96	85 - 115	_
18F1853-BS1	Cadmium (Cd) EPA 6020A	Cadmium	0.099	0.1000	mg/L	99	85 - 115	-
18F1853-BS1	Chromium (Cr) EPA 6020A	Chromium	0.102	0.1000	mg/L	102	85 - 115	-
18F1853-DS1	Cubalt (Co) EPA 6020A	Cobalt	0.098	0.1000	mg/L	98	85 - 115	
18F1853-BS1	Lend (Pb) EPA 6020A	Lead	0.097	0.1000	mg/L.	97	85-115	
18F1853-BS1	Lithium (Li) EPA 6020A	Lithium	0.907	1.000	mg/L	91	B5 - 115	
18F1833-BS1	Molybdeman (Mo) EPA 6020A	Molybdomm	0.100	0.1000	mg/L	100	85 - 115	
18F1853-BS1	Selenium (Se) EPA 6020A	Selenium	0.098	0.1000	mg/L	98	25 - 115	
8F1853-BS1	Thellium (T1) EPA 6028A	Thellium	0.097	0.1000	mg/L	97	85 - 115	
8F1854-BS1	Calcium (Ca) EPA 6010B	Calcium	1.97	2,000	mg/L	98	85 - 115	
8F2039-ES1	Mercury (Hg) EPA 7470A	Mercury	1.6	1.667	ug/L	99	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Matrix Spike Data

QC Lab #	Test Group	Test Name	Source Sample	Sample Result	Units	Splice Result	Spike	% Rec.	Acceptance Limits	Flags
18F1853-MS1	Antimony (Sb) EPA 6020A	Antimony	AF15023-01	BPQL	mg/L	0.095	0,1000	95	85 - 115	-
18F1853-MS1	Arzenic (As) EPA 6020A	Arsenio	AF15023-01	0.004	mg/L	0.101	0.1000	97	85 - 115	
18F1253-MS1	Barium (Ba) EPA 6020A	Barium	AF15023-01	0,170	mg/L	0.261	0.1000	91	85 - 115	
18F1853-MS1	Beryllium (Be) EPA 6020A	Beryllium	AF15023-01	BPQL	mg/L	0.100	0.1000	100	85 - 115	
18F1853-MS1	Boron (B) EPA 6020A	Boron	AF15023-01	0.079	mg/L	0.165	0.1000	86	85 - 115	
18F1853-MS1	Cadmium (Cd) EPA 6020A	Cedmium	AF15023-01	BPQL	ng/L	0.093	0,1000	93	85 - 115	
18F1854-MS1	Calcium (Ca) EPA 6010B	Calcium	AF15023-02	128	mg/L	132	2.000	175	85 - 115	#52
18F1853-MSI	Chrominan (Cr) EPA 6020A	Chremium	AF15023-01	BPQL	mg/L	0.096	0.1000	96	85 - 115	
18F1853-MS1	Cobalt (Co) EPA 6020A	Cobalt	AF15023-01	BPQL	mg/L	0.092	0.1000	92	85 - 115	
18F 1853-MS 1	Load (Pb) EPA 6020A	Load	AF15023-01	BPQL	mg/L	0.091	0.1000	91	85 - 115	
18F1853-M31	Lithium (Li) EPA 6020A	Lithium	AF15023-01	BPQL	mg/L	1.02	1,000	102	85 - 115	
18F2039-MS1	Morousy (Hg) EPA 7470A	Mercury	AF15023-03	BPQL	ug/L	1.4	1.667	82	75 - 125	
18F1853-M51	Molybdenum (Ma) EPA 6020A	Molybdenum	AF15023-01	BPQL	mg/L	0.099	0.1000	99	85 - 115	
18F1853-MS1	Selenium (Se) EPA 6020A	Selenium	AF15023-01	BPQL	mg/L	0.093	0.1000	93	85 - 115	
AF1853-MS1	Thallium (TI) EPA 6020A	Thallium	AF15023-01	BPQL	mg/L	0.095	0,1000	95	85 - 115	

Matrix Spike Duplicate Data

QC Lab#	Test Group	Test Name	Sample Result	Spike Result	Spike Level	Units	Rec.	Rec.	% RPD	RPD	Flags
18F1853-MSD1	Antimuny (Sb) EPA 6020A	Antimony	BPQL	0.097	0.1000	mg/L	97	85-115	3	20	
18F1853-MSD1	Arsenic (As) EPA 6020A	Arsenic	9.004	0.100	0.1000	mg/L	96	85-115	1	20	
18F1853-MSD1	Barium (Ba) HPA 6020A	Barium	9.170	0.271	0,1000	mg/L	101	85-115	4	20	
16F1853-MSD1	Beryllinn (Be) EPA 6020A	Beryllium	BPQL	0.103	0.1000	mg/L	103	85-115	2	20	
18F1853-MSD1	Boron (B) EPA 6020A	Boron	0.079	0.171	0.1000	mg/L	92	85-115	3	20	
18F1853-MSD1	Cadmium (Cd) EPA 6020A	Cadmium	BPQL	0.095	0.1000	mg/L	95	85-115	2	20	
18F1854-MSD1	Calcium (Ca) EPA 6010B	Celeium	128	130	2,000	mg/L	125	85-115	0.8	20	#52
18F1853-MSD1	Chromium (Cr) EPA 6020A	Chromiun	BPQL	0.097	0.1000	mg/L	97	85-115	0.3	20	
18F1853-M3D1	Cobalt (Co) EPA 6020A	Cobalt	BPQL	0.094	0,1000	mg/L	94	83-115	2	20	
18F1853-MSD1	Lead (Pb) EPA 6020A	Lead	BPQL	0.094	0.1000	mg/L	94	85-115	4	20	
18F1853-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQL	1.06	1.000	mg/L	106	85-115	4	20	
18F2039-MSD1	Mercury (Fig) EPA 7470A	Mercury	BPQL	1,4	1,667	ug/L	84	75-125	3	20	
18F1853-MSD1	Molybdenum (Mo) EPA 6020A	Molybdanum	BPQL	0.102	0.1000	mg/L	102	85-115	3	20	
18F1853-MSD1	Selenium (Sc) EPA 6020A	Selentum	BPQ1.	0.092	9.1000	mg/L	92	85-115	1	20	
8F1853-MSD1	Thallium (TI) EPA 6020A	Thellium	BPQL	0.097	0.1000	mg/L	97	85-115	2	20	

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	(405) 553-4079	PRC#:	(405)		Phone #:	(553-4079)		eq.	=	405) 553	4063	1

Fluoride (EPA 300) 6-14-10 C00] < +0C XX -- All samples are scheduled to be disposed of in 4 weeks of receipt at Acaurate. --Initials 12036 N. Pennsylvania Phone: (405) 751-3132 Oldshoma Clry, OK 73120 Bax: (405) 751-3138 -- Hazardous samples will be returned to cileni or will be disposed of for a fee --(Working Days) -- All Glass containers provided by Accurate Labs have Tellan lined ilds --Mercury (RPA 245.1) C001 < 4°C × 対 のよう Dark Trus соошривед (405) 553-4063 Dente/Time Radium 225 mulbass C001 < 4°C Date (STUDBURDOO) 舛 × Metals* (acc Cool <4°C Sal Due Date ... Teld Justinian Calibration -#PE PO#-12036 N. Pennsylvania (af available) XX Final Read Eax # Semple Method: A CAN PROPERTY P. Car SOL C001 < 4°C APVendorInvoices@oge.com Boron, Calcium, Chloride, Fluoride, XX RUSH Cool e4°C Strackards Mail Invoice To: Email invoice to: m eth. (918) 663-5400 Meter Type (553-4079 Company: Oklahomas Gas & Electric CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone: Fex: Chain of Custody Resiser at Lab Phone #: Address GWUDA-FS- Groundveser uniter direct net teatres of Presing Stream GWUDA-FRL. Groundvesser uniter Ower 1-frances of Ruserials Associated (EPA 200), Frances (EPA 200), Suilines (EPA 200), Suilines (EPA 200), Received Br *Antinumy, Arsenic, Bariam, Barylium, Cachnium, Chromlum, Colbelt, Lead, Lithian, Mchybdosum, Selenium, Thallium Tolas, OK 74074 MK-12639 MK- 126594 PWS ID Oklahoma 1014 (405) 372-5300 (405) 372-5396 Certification by Company Official. I batchy certify that the above sampling commed during a period natch that the name ket is the transfer of a typical operating day discharge the due above the lift. O = Other 6-10-18 Blank Water MW-2 DUP Date/Time Date/Time Fax 主 (405) 553-4063 20 WW = Wastenator; SL = Sladys; 40 PWS. Phomes Yes Project Number Turbidity Olice Manie Ċ ٣ Mail Report To SmithsCA@oge.com, dowta@oge.com (E.Coll)" * Complete Entire COC to be in Compliance* (DMR, 505 South Lowry Street Stillwater, OK 74074 Ocho Col Ø₩ MS Reporting 020 5301 Three Forks Road Ft. Gibson, OK 74434 DW - Drinkingwater; Micheo Raw Alkallaity (405) 553-4079 (TOC Rany)= 6/14/18 6/14/18 Accurate Frommannia Lab www.accuratelabs.com (800) 516-5227 O Religionished to Lab Br. O Relgid to Law-to Pride 4518633 5 Relinguished By On-Site Info Meths Codes (EPA 200.8) Phone #: Address Email:



July 30, 2018

Client: OG&E - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: Chuck Smithson



National
Environmental
Laboratory
Accreditation
Program
Kansas CERT # E-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

June 15, 2018

Time: 10:14

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Water

Lab Log Numbers:

AF15028-01 AF15028-05 AF15028-02 AF15028-06 AF15028-03 AF15028-07 AF15028-04

Work Order:

AF15028

Report #

AF15028-0730181002

EPA Lab ID#'s:

AL 15020-0150151002

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kausas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072 Stillwater Drinking Water NELAP CERT # T105704533-14-1

Texas Certification:
Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @— Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126589

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:01

Lab Log# AF15028-01

Method/Parameter	Test	Result Note	PQL#	Prep Info	Analysis Infe
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L	0.690	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.469 pCi/L		06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L	0,228	06/22/18 09:43	07/16/18 15:45
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.199 pCi/L		06/22/18 09:43	07/16/18 15:45

Sample: MW-2 MK-126590

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15028-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Infe
Radium 228 - BPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.738	06/22/18 09:43	07/12/18 15:25
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.519 pCi/L			06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Cent #9517/D9923)	Redium 226	BPQL pCi/L		0.228	06/22/18 09:43	07/16/18 16:15
Radium 226 - SM7500RaB (Cert F9517/D9923	Uncertainty +/-	0.199 pCi/L			06/22/18 09:43	07/16/18 16:15

Sample: MW-3 MK-126591

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 11:10

Lab Log# AF15028-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Infe
Redium 228 - EPA 904/9320 (Curt 99517/D9923	Radium 228	1.03 pCi/L		0.827	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert 9517/D9923	Uncertainty +/-	0.535 pCifL			06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Cert 9517/D9923	Radium 226	BPQL pCi/L		0.228	06/22/18 09:43	07/16/18 16:45
Redium 226 - SM7500RaB (Cert 9517/D9923)	Uncertainty +/-	0.263 pCi/L			06/22/18 09:43	07/16/18 16:45

Sample: MW-4 MK-126592

Location Code:

PWSID#:

Collection Type: Grab

rab

Sample Time:

6/14/18 11:40

Lab Log# AF15028-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923;	Radium 228	BPQL pt	CM.	0.705	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.386 pC	CS/IL		06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Cort #9517/D9923	Radium 226	BPQL pC	S/L	0.227	06/22/18 09:43	07/16/18 17:16
Radium 226 - SM7500RaB (Cest	Uncertainty +/-	0,186 pC	Ci/L		06/22/18 09:43	07/16/18 17:16

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-5 MK-126593

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

6/14/18 12:05

Lab Log# AF15028-05

Method/Parameter	Teşi	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.885	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0,546 pCi/L			06/22/18 09:43	07/12/18 15:25
Radjum 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCVL		0.227	96/22/18 09:43	07/16/18 17:46
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.211 pCi/L			06/22/18 09:43	07/16/18 17:46

Sample: MW-2 DUP MK-126594

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 10:30

Lab Log# AF15028-06

Method/Parameter	Test	Result Note	s PQL#	Prep lafo	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L	0.833	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert #9517/D99231	Uncertainty +f-	0.470 pCi/L		06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L	0.227	06/22/18 09:43	07/16/18 18:16
Radium 226 - SM7500RaB (Cent W5517/D9923	Uncertainty +/-	0.21i pCi/L		06/22/18 09:43	07/16/18 18:16

Sample: Blank Water MK-126595

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/14/18 12:26

Lab Log# AF15028-07

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L	0,663	06/22/18 09:43	07/12/18 15:25
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.493 pCi/L		06/22/18 09:43	07/12/18 15:25
Radium 226 - SM7500RaB (Curt #9517/D9923)	Radium 226	BPQL pCi/L	0.227	06/22/18 09:43	07/16/18 18:46
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty 1/-	0.186 pCi/L		06/22/18 09:43	07/16/18 18:46

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

MCL Analyt	conventration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
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Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/metrix effects PQL.

Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 92 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Blank Data

QC Lab#	Test Group Test		Result	PQL	Plage
18G3011-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL PCI/L	0.542	
18G3011-BLKI	Radium 226 - SM7500RaB (Cert #9517/D9923)	Redium 226	BPQL pCi/L	0.114	

201> 1007 that And tobason -- All namples are scheduled to be disposed of hs 4 weeks of receipt as Accurate. ---- Honordous simples will be returned to cilent or will be disposed of for a fee-12036 N. Penisylvania Phone: (405) 751-3132 Oktabona City, OK 73120 Fax: (405) 751-3108 (Working Days) -- All Chass containers provided by Accurate Labs have Teglon lines lids DuteTimo Metar Type Standard Phild Institution California Services (1977) DutoTime × × × × × (405) 553-4063 Cool <4°C SSS bas 3SS amibes Detr/Time 61870 EONH XX × Due Date C001 < 4°C RUSH Request # 250 P0#-(if available) 四年 2000 ctoC SOLL Samule Method Rec'd ម្ Addrag: AFVendorInvoices@oge.com RUSH Boton, Calcium, Mail Invoice Dr. Email invoice to: 3 3 (918) **663-5400** (918) **663-6300** さい 国際書 Pivil へい (553-4079) Company: Oklahomi Cas & Electric 治学り OG&E Muskogee Power Plant CCR Groundwater Monitoring . 5 . 7 Phone: Chain of Custody Received # ton Phono #: DW = Debringwater; WW = Waterater; BL = Shulps; O = Other
GWUDI-RD= Generalization of the Committee of the C *Antimony, Arrente, Bertum, Beryilbern, Cadminn, Chromium, Collett, Lead, Liftium, Molybdenum, Selenium, Thelifean 6558 E. 40th Street Tulen, OK 74074 MK- (36592 MK- (36590 MK- [24 573 MK- 126589 MK. (2659) Standare: PWS ID# Oklahoma 501 200 Cattilication by Company Official: I hereby cartify that the above sampling occurred during a period and that the law in the sample (s) feten representative of a typical special in the disc. the the chore facility. Stiffwater, OK 74074 Fear: (405) 372-5300 Date/Dine DifeThme East (405) 553-4063 MW-2 MW-3 MW4 MW-1 MW-5 Š 6 (DMR, PWE, Yes Ö O Carbidity O O O (ACOR) Mail Report To Smiths C.A. Goge, com, dowta Goge, com * Complete Entire COC to be in Compliance* 10/ Man 8 AS 1 8 MS 050 Compliance 0 94 Reporting Da 5501 Three Forks Road Ft. Gibson, OK 74434 M: cheal On Stability Raw Alballatty 6/14/18 6/14/18 6/14/18 6/14/18 (TOC Raw)= 6/14/18 Phone (405) 553-4079 Accurate Accurate Lete WWW. Bocuratelabs.com (800) 516-5227 O Reinstained to Leb By: O Relott to Log-in Prides By: 188 X 4 Misch Cole F Rollingshiped By 0 Sumpled By: Address:

C001 <4.0 Munice (27-500) 24 × -- All samples are scheduled to be dispased of in 4 weeks of receipt at Accurate. ---- Henordow samples will be returned to client or will be disposed of for a fee--12036 N. Pennsylvania Phone: (405) 751-3132 Oklahoma Chy, OK 73120 For: (405) 751-3108 -- All Class containers provided by Accurate Labs have Tollon lined lids --. (Working Days) A Proof Instrument College in the Action States benidanoos XX Date Time Eas. (405) 553-4063 C00] <4°C Radium 226 and 228 Datte Cinno Ś × Due Date Metals* (see Sar C001 <4°C 1 RUNH Request (if available) 3 # 250 8 M Final Read. C001 <4°C SQL Seo'd Brone Calciun. Chloride, Phoride, Astron APV endor Involces@oge.com RUSI O.4> [000] Standands Property Mail lancies I'm Email involce to: 3 Contraction of the last (918) 663-5400 (918) 663-6300 The Late of the la (553-4079) Company: Oklahoma Gas & Electric CCR Groundwater Monitoring OG&E Muskogee Power Plant Phonex Fax: Chain of Custody Assigned of Lab GWUD-19st Committee with disease of the Street Green GWUD-19st Committee with direct of the Street Street Green GWUD-19st Committee with the Street Green GWUD-19st Calcium (EPA 200.7), Charles (EPA 300), Phonico (EPA 300), Sulfate (EPA 300), Rendered By Phono #: "Antissony, Arzenio, Berium, Beryllium, Ciedmium, Chromium, Cotkelt, Lend, Liftnium, Modybdenum, Selentum, Thellium 6558 E 40th Street Tulen, OK 74074 MK- 126514 MK-13695 Structure: Oldahoma PW8 ID# 5/01 Cartification by Company Officials I hearly cartify that he above samples commed during a period soch that the samples of period during a period that the samples of period during a period that the samples of period during a period of the samples of the sample of the samples of the sample S05 South Lowry Street Phone: (405) 372-5300 Stillwinder, OK 74074 Fax. (405) 372-5396 Blank Water MW-2 DUP Detr/Dinse Date/Lime Fex #: (405) 553-4063 WW = Restoutier; SL = Shape; No ò (DMR, PWS, Yes ¢ O (元の母) Mail Report To Smiths CA along com, downs@oge.com * Complete Entire COC to be in Compliance* Cab) o 8 Compliance 256 Reporting? 5501 Three Forts Road Ft. Gibson, OK 74434 DW = Dribhigwater; GWUDL-FIS = Grandway Micheo Raw Albelladty 6/14/18 6/14/18 (TOC Rave)-Phone # (405) 553-4079 A courage Environmental Labs Reporting Report prints WWW.accuratelabs.com (800) 516-5227 O Refuid to Locale Fritter III C Refragatabled to Lab Bu 00 Darking late Schwarfelled By Menth Codes Sampled By-AF15 Address

Sampling Log

	Date: 6-27-2018
Sample ID	Weather Conditions and Temperature: Chilly 890
Field Samplers	Names: Jason Childres, Sermy Blodgett Michael Joed
	Groundwater Level (ft below TOC): 10'7"
MW01	Sample Time: 10:32
	Purge Volume: 5, 1 gal Field pH: 6,94 (10:40)
3.53700	Sample Time: //:00
MW02	Purge Volume: 8, 16 gol Field pH: 6,9 (11:09)
	Groundwater Level (ft below TOC):: 8 " "
MW03	Sample Time: //:25
	Purge Volume: 7, 14 gol Field pH: 6.8 (1/:36) Comments:
	Groundwater Level (ft below TOC):: //'2"
MW04	Sample Time: //:55
	Purge Volume: 6.12 gal Field pH: 6.66 (12:04)
	Comments:
	Groundwater Level (ft below TOC):: /0'5"
MW05	Sample Time: 121/8
41A 17 00	Purge Volume: 5.6(ad Field pH: 6.78 (12:26)
	Comments:

Additional Notes:

```
Groundwater Velocity
```

Date: 6/27/2018

V=KI/n

V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μm/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - MV	W2:				
dh =	1.087	MW1 =	509	10.583	498.417
dl =	1053.2	MW2 =	502	4.67	497.33
! = dh/d! =	0.001032093				
V = Ki/n =	2.49588E-07 ft/	/sec = 0.076075	um/sec		
4 - 10/11 -	2.433002-07 117	366 - 0.070073	Personal Parish		
MW1 - MV	V3:				
dh =	1.917	MW1 =	509	10.583	498.417
di =	1390	MW3 =	505	8.5	496.5
I = dh/dI =	0.001379137				
V = KI/n =	3.33513E-07 ft/	sec = 0.101655	µm/sec		
MW5 - MW	V4 :				
dh =	-0.083	MW5 =	506	10.25	495.75
dl =	326.21	MW4 =	507	11.167	495.833
l = dh/dl =	-0.000254437				
V = KI/n =	-6.153E-08 ft/	sec = -0.01875 ;	ım/sec		
MW5 - MW	/3:				
dh =	-0.75	MW5 =	506	10.25	495.75
dl=	773.75	MW3 =	505	8.5	496.5
I = dh/di =	-0.000969305				
V = KI/n =	-2.34405E-07 ft/s	sec = -0.07145	im/sec		

6-27-18	Attachment 2 : Groundwater Flow Direction Field Notes
WE-MUR-MUST HE: 0.00651 St/St	
208: 144.59° clockwise f	one True North
WI-MWA-MWA! HG: 0.00415 SA/SA	
DOG: 166.69° clockerise for	on True Holl
17-1402-125 HG: 0.00339 Ft/H	channels and an annual subsequent proposed an annual proposed and the subsequent proposed and the subsequent
DOF: 189.74° Clackwise from	the commenced for the state of
N-AUS-MUNI HER 0.00180 Ft/ft	
DoF: 289. 83° clockwise from	True slooth
x-123-125 HG: 0.00131 St/St	ngenoga-
Dof: 177, 89° Clockwise Sto	on True North
51-MUY-MUST HE: 0,0014 H/SH	
Dop: 27721° clockwise for	on Ties North
22-1127 1124; 16: 0.00 545 St/St	- Addition on the
DOP: 43.74° Clackwise from	m True North
12-12-12-12-12-12-12-12-12-12-12-12-12-1	
DOF: 41,290 clockerise 500	m True North
PATHUM-AUS! HGS 0.00851 St/St	
Dof: 37.62° checkenise fra	m True North
12-MIN-MUK. HG 10.00353 St/St	The state of the s
DoP: 35.18° clackwise	tom Tive Morth
Application of state	
	- Language
	QL SECTION AND
+	All to



July 17, 2018

Client: OG&E - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



National Environmental Laboratory Accreditation Program Kanun CERT # K-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

June 28, 2018

Time: 9:50

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

AF28033-01 AF28033-05 AF28033-02 AF28033-06 AF28033-03 AF28033-07 AF28033-04

Work Order:

AF28033

Report #

AF28033-0717180856

EPA Lab ID#'s:

AX20V33-V/1/16V030

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:
Method Reference:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126610

Location Cede:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 10:30

Lab Log# AF28033-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	0,715 mg/L		0.500	06/29/18 10:20 BM	06/29/18 18:35 BM
Fluoride EPA 300.0	Fluoride	0.24 mg/L		9.10	06/29/18 10:20 BM	06/29/18 18:35 BM
Sulfate EPA 300.0	Sulfete	8.98 mg/L		0.500	06/29/18 10:20 BM	06/29/18 18:35 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	397,0 mg/L		25.0	06/29/18 15:46 ZS	07/02/18 16:27 28
Antimony (Sb) EPA 200.8	Amimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:48 PD
Amenic (As) EPA 200.8	Arrenio	0.0007 mg/L		0.0005	06/29/18 16:00 RW	07/03/18 22:48 PD
Barium (Ba) EPA 209.8	Barium	0.154 mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:48 PD
Beryllium (Be) EPA 200.8	Beyllium	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 19:35 PD
Boron (B) EPA 200,8	Boron	0.076 mg/L		0.025	06/29/18 16:00 RW	07/09/18 12:28 LF
Cudmium (Cd) EPA 200.8	Cedesium	BPQL mg/L		0.0910	06/29/18 16:00 RW	07/03/18 22:48 PD
Calcium (Ca) EPA 200.7	Calcium	109 mg/L		0.10	06/29/18 16:00 RW	07/03/18 16:03 LF
Chromium (Cr) EPA 200.8	Chromium.	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 22:48 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	06/29/18 16:00 RW	67/03/18 22:48 PD
Lead (Fb) EPA 200.8	Load	BPQL mg/L		0,0005	06/29/18 16:00 RW	07/03/18 22:48 PD
ithium (Li) EPA 6020A	Lithium	BPQL' mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:12 LF
Mercury (Hg) EPA 245.1	Mercury	APQL ug/L		0.050	07/03/18 08:45 RW	07/05/18 11:42 RW
violybdonum (Mo) EPA 200,8	Molybdenum	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:48 PD
elenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	06/29/18 16:00 RW	07/03/18 22:48 PD
hallium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 22:48 PD

Sample: MW-2 MK-126611

Location Code:

PWSID#:

Collection Tyne: Grab

Sample Time:

6/27/18 11:00

Lab Log# AF28033-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Auslysis Info
Chloride EPA 300,0	Chloride	40.1 mg/L		5,00	06/29/18 10:20 BM	06/29/18 20:20 BM
Fluoride EPA 300.0	Fluoride	0.25 mg/L		0.10	06/29/18 10:20 BM	06/29/18 19:59 BM
Sulfate EPA.300.0	Sulfine	106 mg/L		5,00	06/29/18 10:20 BM	06/29/18 20:20 BM
Total Dissolved Solida 8M2540 C	Total Dissolved Solids	603.0 mg/L		25.0	06/29/18 15:46 23	07/02/18 16:27 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:53 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 22:53 PD
Barium (Ba) EPA 200.8	Barium	0.253 mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:53 PD
Beryflium (Bs) EPA 200.8	Beryllium	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 19:40 PD
Boron (B) EPA 200.8	Boron	0.225 mg/L		0.025	06/29/18 16:00 RW	07/09/18 12:33 LF
Cadmium (Cd) EPA 200.8	Cadmium.	BPQL mg/L		0.0010	06/29/18 16:00 RW	07/03/18 22:53 PD
Calcium (Ca) EPA 200.7	Calcium	132 mg/L		0.50	06/29/18 16:00 RW	07/03/18 16:57 LF
Chromium (Cr) EPA 200.8	Chromina	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 22:53 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	_	0.010	06/29/18 16:00 RW	07/03/18 22;53 PD
Lead (Pb) HPA 200.8	Lead	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 22:53 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:16 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		9.050	07/03/18 08:45 RW	07/05/18 11:45 RW

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:00

Lab Log# AF28033-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Malybdenum (Mo) EPA 200.8	Molybdenum	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:53 PD
Selenium (Sc) EPA 200.8	Selenium	BPQL mg/L		0,0050	06/29/18 16:00 RW	07/03/18 22:53 PD
Thallium (Ti) EPA 200.8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 22:53 PD

Sample: MW-3 MK-126612

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:25

Lab Log# AF28033-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Auniysis Info
Chloride EPA 300.0	Chloride	169 mg/L		12.5	06/29/18 10:20 BM	06/29/18 21:02 BM
Fluoride EPA 300.0	Finaride	0.18 mg/L		0,10	06/29/18 10:20 HM	06/29/18 20:41 BM
Sulfata EPA 300.0	Sulfate	196 mg/L		12.5	06/29/16 10:20 BM	06/29/18 21:02 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1155 mg/L		25,0	96/29/18 15:46 ZS	07/02/18 16:27 28
Antimony (Sb) EPA 200,8	Antimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:59 PD
Arsenic (As) EPA 200.8	Arsenic	0.0009 mg/L		9.0005	96/29/18 16:00 RW	07/03/18 22:59 PD
Barium (Ba) EPA 200.8	Bariam	0,289 mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:59 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 19:46 PD
Baron (B) EPA 200.8	Baron	0,061 mg/L		0.025	06/29/18 16:00 RW	07/09/18 12:39 LF
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	06/29/18 16:00 RW	07/03/18 22:59 PD
Calcium (Ca) EPA 209,7	Celcium	242 mg/L		0.50	06/29/18 16:00 RW	07/03/18 17:00 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 22:59 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 22:59 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0.0005	96/29/18 16:00 RW	07/03/18 22:59 PD
Lithium (Li) EPA 6020A	Láthium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:20 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL vg/L		0.050	07/03/18 08:45 RW	07/05/18 11:48 RW
Molyhdamam (Me) EPA 200.8	Molybdenum	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 22:59 PD
elenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	06/29/18 16:00 RW	07/03/18 22:59 PD
Prallium (T1) EPA 200.8	Thalling	BPQL mg/L		0.0005	06/29/18 L6:00 RW	07/03/18 22:59 PD

Sample: MW-4 MK-126613

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:55

Lab Log# AF28033-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	141 mg/L		25.0	96/29/18 10:20 BM	06/29/18 21:44 BM
Fluoride RPA 300,0	Fluttide	0.18 mg/L		0,10	06/29/18 10:20 BM	06/29/18 21:23 BM
Sulfate EPA 300.0	Sulfate	357 mg/L		25.0	06/29/18 10:20 BM	06/29/18 21:44 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1535 mg/L		25.0	06/29/18 15:46 ZS	07/02/18 16:27 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:04 PD
Amenic (As) EPA 200.8	Arsenic	0.0008 mg/L		0.0005	96/29/18 16:00 RW	07/03/18 23:04 PD
Barium (Ba) EPA 200.8	Barium	0.231 mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:04 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 19:51 PD
Baron (B) EPA 200.8	Boron	0.063 mg/L		0.025	06/29/18 16:80 RW	07/09/18 12:44 LF
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	06/29/18 16:80 RW	07/03/18 23:04 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Location Code:

FWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:55

Lab Log# AF28033-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Calcium (Ca) EPA 200.7	Calcium	336 mg/L	Y 100	0.50	06/29/18 16:00 RW	07/03/18 17:03 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:04 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:04 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:04 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:25 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL vg/L		0,050	07/03/18 08:45 RW	07/05/18 11:51 RW
Molybdenum (Ma) EPA 200.8	Molybdenum	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:04 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	06/29/18 16:00 RW	07/03/18 23:04 PD
Thallium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:04 PD

Sample: MW-5 MR-126614

Location Code:

PWSID#:

Collection Type:

Sample Time: 6/27/18 12:18 Lab Log# AF28033-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Infe	Analysis Info
Chloride EPA 300.0	Chloride	24.6 mg/L		12.5	06/29/18 10:20 BM	06/29/18 22:26 BM
Fluoride EPA 300.0	Flueride	0.16 mg/L		0.10	06/29/18 10:20 BM	06/29/18 22:05 BM
Sulfate EPA 300,0	Sulfate	148 mg/L		12.5	06/29/18 10:20 BM	06/29/18 22:26 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	877.0 mg/L		25.0	06/29/18 15:46 ZS	07/02/18 15:27 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	06/29/18 15:00 RW	07/03/18 23:10 PD
Assenic (As) EPA 200.8	Arsenic	0.0005 mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:10 PD
Barium (Ba) EPA 200.8	Barino	0.176 mg/L		0,005	06/29/18 16:00 RW	07/03/18 23:10 PD
Beryllium (Be) EPA 200.8	Berylinm	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 19:57 PD
Boron (B) EPA 200.8	Boron	0.279 mg/L		0.025	06/29/18 16:00 RW	07/09/18 12:50 LF
Cadmium (Cd) EPA 200.8	Cedmium	BPQL mg/L		0.0010	06/29/18 16:00 RW	07/03/18 23:10 PD
Calcium (Ca) EPA 290.7	Calcium	207 mg/L		0.50	06/29/18 16:00 RW	07/03/18 17:06 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:10 PD
Cobali (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:10 PD
Lend (Pb) EPA 200.8	Lead	BPQL mg/L		0,0005	06/29/18 16:00 RW	07/03/18 23:10 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:29 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	07/03/18 08:45 RW	07/05/18 11:54 RW
Molybdenum (Mo) EPA 200.8	Molybdenum	0.005 mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:10 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	06/29/10 16:00 RW	07/03/18 23:10 PD
Thellium (TI) EPA 200 8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:10 PD

Sample: MW-3 DUP MK-126615

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:25

Lab Log# AF28033-06

Method/Parameter	Test	Result	Notes	PQL#	Prep lafo	Analysis Infe
Chloride EPA 300.0	Chloride	167 mg/L		12,5	06/29/18 10:20 BM	06/29/18 23:09 BM
Fluoride EPA 300.0	Fluoride	0.18 mg/L			06/29/18 10:20 BM	06/29/18 22:48 BM
Sulfate EPA 300.0	Sulfate	195 mg/L		12.5	06/29/18 10:20 BM	06/29/18 23:09 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1157 mg/L		25.0	06/29/18 15:46 ZS	07/02/18 16:27 ZS

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

6/27/18 11:25

Lab Log# AF28033-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:15 PD
Arzenic (As) EPA 200.8	Arsenic	0.0012 mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:15 PD
Barium (Ba) EPA 200.8	Barium	0,310 mg/L		0.003	06/29/18 16:00 RW	07/03/18 23:15 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L		100.0	06/29/18 16:00 RW	07/05/18 20:02 PD
Boron (B) EPA 200.8	Boron	0.071 mg/L		0.025	06/29/18 16:00 RW	07/09/18 12:55 LF
Ceduzium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	06/29/18 16:00 RW	07/03/18 23:15 PD
Calcium (Ca) EPA 200.7	Calcium	238 mg/L		0.50	06/29/18 16:00 RW	07/03/18 17:18 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:15 PD
Cobalt (Co) EPA 200.8	Cobult	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:15 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0.0005	05/29/18 16:00 RW	07/03/18 23:15 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:33 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	07/03/18 08:45 RW	07/05/18 11:57 RW
Molybdenum (Mo) EPA 200.8	Molybdenum	BPQL mg/L		0,005	06/29/18 16:00 RW	07/03/18 23:15 PD
Selenium (So) EPA 200.8	Selenium	BPQL mg/L		0.0050	06/29/18 16:00 RW	07/03/18 23:15 PD
(hallium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:15 PD

Samule: Blank Water MK-126616

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 12:42

Lab Log# AF28033-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA.300.0	Chloride	BPQL mg/L		0.500	06/29/18 10:20 BM	06/30/18 00:33 BM
Fluoride EPA 300.0	Fhoride	BPQL mg/L		0.10	06/29/18 10:20 BM	07/04/18 10:20 BM
Solfate EPA 300.0	Sulfate	BPQL mg/L		0.500	06/29/18 10:20 BM	06/39/18 00:33 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L		25.0	06/29/18 15:46 28	07/02/18 16:27 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:37 PD
Arsenio (As) EPA 200,8	Arsenic	BPQL mg/L		0,0005	96/29/18 16:00 RW	07/03/18 23:37 PD
Barium (Ba) EPA 200,8	Berium	BPQL mg/L		0.005	06/29/18 16:00 RW	07/03/18 23:37 PD
Bayllium (Bc) EPA 200.8	Beryllium	BPQL mg/L		0.001	06/29/18 16:00 RW	07/05/18 20:08 PD
Boros (B) EPA 200.8	Boron	0.035 mg/L		0.025	06/29/18 16:00 RW	07/09/18 13:01 LF
Cadmium (Cd) EPA 200.8	Cedmium	BPQL mg/L		0,0010	06/29/18 16:00 RW	07/03/18 23:37 PD
Celeium (Ce) EPA 200.7	Celcium	BPQL mg/L		8,10	06/29/18 16:00 RW	07/03/18 16:20 LF
Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:37 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	06/29/18 16:00 RW	07/03/18 23:37 PD
Load (Pb) EPA 200.8	Load	BPQL mg/L		0,0005	06/29/18 15:00 RW	07/03/18 23:37 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/02/18 16:20 RW	07/13/18 15:51 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL og/L		0.050	07/03/18 08:45 RW	07/05/18 12:00 RW
Molybdemum (Mo) EPA 200.8	Molybdanun	BPQL mg/L		0,005	06/29/18 16:00 RW	07/03/18 23:37 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	05/29/18 16:00 RW	07/03/18 23:37 PD
Thellium (TI) EPA 200,8	Thallium	BPQL mg/L		0.0005	06/29/18 16:00 RW	07/03/18 23:37 PD

505 S. Lowry Street Stillwater, OK 74074

405-372-5300

Notes and Definitions

#52	Analyse recoveries are outside of acceptance limits for the matrix spike sample. This follure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte consentration may exceed regulatory limit.
	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/metrix effects
BPQL	Balow Practical Quantitation Limit (if applicable).

The "Prep Date" of the QC analysis boincides with the characters of the appropriate QC Leb ID. (Exemple: 12 A Q2 15 - BLK = 2019, Isn 2, Betch #15 - Blank)

Lab Manager

505 S. Lowry Street Stillwater, OK 74074

405-372-5300

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18F2906-BLK1	Chloride EPA 300.0	Chloride	BPQL mg/L	0.500	
18F2906-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
IEF2906-BLKI	Sulfata EPA 300,0	Sulfate	BPQL mg/L	0.500	
18F2961-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solida	BPQL mg/L	25.0	
15F2958-BLK!	Antimony (Sb) EPA 200,8	Antimumy	BPQL mg/L	0.005	
18F2958-BLK1	Areenic (As) EPA 200,8	Amenic	BPQL mg/L	0.0005	
18F2958-BLK1	Berium (Ba) EPA 200.8	Berium	BPQL mg/L	0.005	
18F2958-BLK1	Beryllium (Be) EPA 200.8	Berylinea	BPQL mg/L	0.001	
18F2958-BLK1	Boron (B) BPA 200,8	Вогов	BPQL mg/L	0.025	
18F1958-BLK1	Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	
18F2954-BLK1	Calcium (Ca) EPA 200,7	Culcium	BPQL mg/L	0.10	
18F2958-BLK1	Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L	0.010	
18F2958-BLK1	Cobalt (Co) EPA 208.8	Cobalt	BPQL mg/L	0.010	
18F2958-BLK1	Lead (Pb) EPA 200.8	Lend	BPQL mg/L	0.0005	
8G0250-BLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
18G0338-BLK1	Mercury (Hg) EPA 245,1	Mercury	BPQL qg/L	0.050	
8F2958-BLK1	Molybdezum (Mo) EPA 200.8	Molybdenum	BPQL mg/L	9.005	
8F2958-BLK1	Selenium (Se) EPA 200.8	Scienium	BPQL mg/L	0.0040	
8F2958-BLK1	Thallium (II) EPA 200.8	Thallism	BPQL mg/L	0.0005	_

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spika Level	Vaits	% Rec.	Control Limite	Pings
18F2906-BS1	Chloride EPA 300.0	Chloride	2.90	3.000	mg/L	97	90 - 110	
18F2906-BS1	Phoride EPA 300,0	Fluoride	1.90	2,000	mg/L	95	90 - 110	
18F2906-BS1	Sulfate EPA 300.0	Suifate	15.3	15.00	mg/L	102	90 - 110	
18F2961-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	998.0	1000	mg/L	100	80 - 120	
18F2954-BS1	Celcium (Ca) BPA 200.7 .	Calcium	2.11	2.000	mg/L	106	85 - t15	
18F2958-BS1	Antimony (Sb) EPA 200.8	Antimony	0.101	0,1000	mg/L	101	85 - 115	
18F29S8-BS1	Arsenie (As) EPA 200.8	Arsenio	0.0950	0.1000	mg/L	95	85 - 115	
18F2958-BS1	Barium (Ba) EPA 200,8	Barium	0,102	0.1900	mg/L	102	85 - 115	
18F2958-BS1	Beryllium (Be) EPA 200.8	Beryllium	0.094	0.1900	mg/L	94	85 - 115	
18F2958-BS1	Boron (B) EPA 200.8	Boroz	0.091	0.1900	mg/l.	91	85 - 115	
18F2958-B\$1	Cadmium (Cd) EPA 200.8	Cadmium	0.101	0.1000	mg/L	101	85 - 115	
18F2958-BS1	Chromium (Cr) EPA 200,8	Chromium	0,096	0.1000	mg/L	96	85 - 115	
18F2958-BS1	Cobalt (Co) EPA 200,8	Cobalt	0.091	0,1000	mg/L	91	85 - 115	
L8F2958-B\$1	Lead (Pb) EPA 200,8	Land	0,0984	0.1000	mg/L	98	85 - 115	
18F2958-B\$1	Molybdenum (Mo) EPA 200.8	Molybdenum	0.098	0.1000	mg/L	98	85 - 115	
18F2958-DS1	Solemum (So) EPA 200.8	Selenium.	0.0964	0.1000	mg/L	96	85 - 115	
8F2958-BS1	Thellium (TI) EPA 200.8	Thatlium	0.0973	0.1000	mg/L	97	85 - 115	
4G0250-BS1	Lithium (Li) EPA 6020A	Lithium	1.05	1,000	mg/L	105	85 - 115	
8G0338-BS1	Mercury (Hg) EPA 245.1	Mercury	1.63	1.667	ng/L	98	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Matrix Spike Data

QC Lab#	Test Group	Test Name	Source. Sample	Sample Result	Umita	Spike Result	Spike Level	% Rec	Acceptance Limits	Plags
18G0250-MS1	Lithium (Li) EPA 6020A	Lithium	AF28033-02	BPQL	mg/L	0.982	1.000	98	85 - 115	
18G0338-MSI	Mercury (Hg) EPA 245.1	Mercury	AF28033-05	BPQL	ug/L	1.50	1.667	90	85 - 115	

Matrix Spike Duplicate Data

			Sample	Splice	Spike		75	Rec.	%	RPD	
QC Lab#	Test Group	Test Name	Result	Result	Level	Unita	Rec.	Limits	RPD	Limit	Flags
18G0250-MSD1	Lithium (Li) RPA 6020A	Lithium	BPQL	0.940	1.000	mg/L	94	85-115	4	20	
18G0338-MSD1	Mercury (Hg) EPA 245.1	Meroury	BPQL	1.40	1,667	ug/L	84	85-115	7	20	#52

	2012	Cool		(00E ATE) abiroull	×	×	×	×	×			9		7	Z			-		6		i	22 25
	2.50	Cool		Maromy (RPA 245.1)	×	×	×	×	×	ie.	1		ilds		2520			03%					751-3132
	O₀#>	J000)	1	SSS tons 455 majbaff Danidmoor &	*	*	*	*	*	4	Thous		effon thed I receipt at Ac	Neme	6.28.0		DateOfme	Date Time	(Working Date)			3-4063	Phone: (405) 7: Fax: (405) 7:
ate	103 ChoC			Mchis* (see conments)	×	×	×	×	×		Date		ribs have ? weeks of . will be di	There	9		Deta	7 Page 17	0.7800			(405) 553-4063	
Due Date	J., 1>	Cool		SQL	×	×	×	×	×		Read		Accurate L osed of in 4			thot		5	AUSH Registra	1 3	C S		12036 N. Pennayivanta Oktahema Ciry, OK. 73120
RUSH	Ost>	[60 2]		Boron, Caloium, Chloride, Fluoride, Suitate	×	×	×	×	×	M Indition	Man and and and and and and and and and a		rowided by to be disp		1	Samule Method		Rec'a	RUS		ge.com	~	12036 N. Penngyivania Oktabema Ciry, OK. 7
2			100 m		4.2	4	42	42	3.5	THE PERSON NAMED IN	Stendards Standards Date These Class.		All Glass containers provided by Accarate Labs have Teflon lined litts All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate Flazardous symmetry will be resurred to client or will be the cose of or a second.	M			1	7		Mail broke To Email invoice to:	APVendorInvoices@oge.com		
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	dy	Zer Pi	omitto									a de la companya de l	6 B		1	Casa &	ä	The Day		Involve	Address	Prone #:	Phone: Fax:
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	Chain of Custody	OG&E Muskogee Power Plant	CCR Groundwater Monitorin		37996	26611	36612	21796	1.64			Tylumas o	Sulfate (Signature :		Commun Oklahomii Gas & Electric		0%	Oldahoma PWS ID#				6558 E. 40th Shreet Tailer, OK. 74074
	fC	New Year	HO.	2	-	MK- 12	MK- 13	MK-	MK- 2			afor direct	A 300), Serom, 1			Appropries.		8	Ollahora PWS ID#				8558 Tale
	0	Cer	CRG		Z	Z	M	M	Z		4	Other u	ride (FP Molyb	Bariod	- 1	u		0					372-5300 372-5396
	ain	0	Ö	1985 TO 1895 A COUNTY	5	3	9	4	'n			O = Other RL= Greenshu	O), Place Lithium,	during a r	above the		Date/Dime	Deta/Time	o,			14063	(405) 372-5300 (405) 372-5396
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*		anno de	1		b	0	O	O	O	Perbidity	(R.Coll)=	SIL	Infortide (Collect	guilding	v dischary	<			R. 763	COE		Est (405) 553-4063	Phone: Fax:
* Complete Entire COC to be in Compliance*		Tient.			3	AM5	GW	GW	GW	-	may C. (R.	of Fleshing	《《Generalist》 - All Baron (MFA 200.8), Calcium (EFA 200.7), Chloride (EFA 300), Fluoride (FFA 300), Saliste (EFA 300), Saliste (EFA 300), Phactic, Barima, Beryllium, Cadmium, Chromium, Colbell, Lead, Lishium, Molydenom, Selenium, Thailium (EFA 200.8)	Catification by Company Official: I hareby certify that the above sampling covered during a paried	confine de	or do			(DMR,	ta@oge.com		Fex #	74074
Com		- 40		XX 77.6	0	0	5	7	~	+	1	WW - Farienater	a (EPA)	rettly that	Printer of		(2 July 2	dowta			Lowny
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OC ta	(B)	1								ality.	h	gwoter :	Beryllin	Dist. 1	Thus lends	4	(-1		900	orks R OK 74	8	S 25
the	te de				6/27/18	0/27/118	6/27/18	6/27/18	6/27/18	Row Albalinity	(TOC Raw)=	DW = Drinklegwater;	One (Ell.)	D ABBOT	(s) is/fare	M		. 4		PSCA CA	5501 Three Porks Road Ft. Gibson, OK 74434	(405) 553-4079	\$.com
te Em	Accurate	Virginia								-	8	CAMCIO	(reenic,)	by Con	B same k		45	o Leb By In Pidder		Z	5501 Ft.	(50	**************************************
omple	Ac	5		温6毫十号	- 1	-05	503	4	200	On-Site Info		Ments Color	Colonomy (Arcento, Barton, Berylliam, Cadenium, (EPA 200.8)	Testion	cach that th	Sel Dic	Relinguished By:	o Relinquished to Leb By: o Rela'd to Losein Prides By:		Mil Report to SmithsCA aloce.com, dow	14	ala	www.accuratelabs.com (898) 516-5227
\$				F280	*	1	7	T	T	S-a0		Nest Property	And (EPA	C			Refin			Mail R	Address	Phone #	MA

Oot | 1000 (00£ A4B) ebbouff × × Confidential Confidence Confidenc -- All namples are scheduled to be disposed of in 4 weeks of receipt at Accorate. --の元な 12096 N. Pennsylvania Phone (405) 751-3132 Oldahoma Chy, OK 73120 Fax: (405) 751-3108 -- Hazardous samples will be retarned to client or will be disposed of for a res-(Working Days) -- All Glass containers provided by Accurate Labs have Tylion lined lids --Mercary (EPA 245.1) 岭 C00] <100 8/201-2 民 * ERG. (405) 553-4063 Date/Time Oot - 1000 EONH ×× Metals* (see Due Date 100 Cool <4°C BEL#. 620 FO#-× × Final Read Secroto Method: SCIL. C00] <4°C APVendorInvoices@oge.com Boron, Calcium, Chloride, Fluoride, RUSH × × 3 Mail Invoice To: Email invoice to: 54 φ φ (918) 663-5400 (918) 663-6300 Meter Type (523-4079) Commune Okladatorina Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone Received A Lab De Pax: Chain of Custody Phone # E. Cell. State. GWODL-FS-- Grandmar under direct haven at Park Lorent GWUDL-RL-- Grandware under direct between at Resembel. Specialistic (EPA 300), Finandes (EPA 300), Sulfiste (EPA 300), Sulfiste (EPA 300), Sulfiste (EPA 300), Salfiste (EPA 300 Received Br 6558 E. 40th Street Teles, OK 74074 MK-(7.2615) MK-12666 Signature: Oliakoma PWS ID# 080 6-18-18 (405) 372-5300 (405) 372-5396 Catification by Common Official: I hereby cardity that the above associates occurred during a period sent faul for parepeters) house representative of a spriod opening day discharge for the above incliny. SL = Shalps; 0 = Other Blank Water MW-3 DUP 9000 DateTime DetecTine Euc. (405) 553-4063 è Complement Yes on Reporting? (DMR, PWS, Phone: Fax: Turbidity Mail Report To Smiths CA @ 020.com, downa @ 020.com O (R COE) Ф * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK 74074 Op Joi 8 B DW = Drinkbypanter . WW = Scate てよさ 5501 Three Forks Road Ft. Gibson, OK 74434 Michael Raw Alballaity Example: (405) 553-4079 Envil: 81/12/9 (TOC Rave) A courage WWW.accuratelabs.com (800) 516-5237 o Reinguished to Lett. By: O Rein's to Los-in Prime By: AF2803 Refinentiated By On-Site Tafe Security By EPA 200.8) Month Coder 9 9



July 20, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: Chuck Smithson



National
Environmental
Laboratory
Accreditation
Program
Kanses CERT # E-10219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: June 2

June 28, 2018

Time: 9:50

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

AF28042-01 AF28042-05 AF28042-02 AF28042-06 AF28042-03 AF28042-07 AF28042-04

Work Order:

AF28042

Report #

AF28042-0720181629

EPA Lab ID#s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stil

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072 Stillwater Drinking Water NELAP CERT # T105704533-14-1

Texas Certification: Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-500/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NRLAP. Any exceptions to this can be found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126610

Location Code:

PWSID#:

Collection Type; Grab

Sample Time:

6/27/18 10:30

Lab Log# AF28042-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cext #9517/D9923)	Radium 228	BPQL pCi/L		0.477	07/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cort #9517/D9923)	Uncertainty +/-	0.349 pCi/L			07/03/18 16:00	07/06/18 11:49
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.541	07/12/18 14:58	07/15/18 22:33
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.443 pCi/L			07/12/18 14:58	07/15/18 22:33

Sample: MW-2 MR-126611

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:00

Lab Log# AF28042-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923	Radium 228	BPQL pCi/L		0.553	07/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0,433 pCi/L			07/03/18 16:00	07/06/18 11:49
Radium 226 - SM7500RaB (Cent #9517/D9923)	Radium 226	BPQL pCi/L		0.534	07/12/18 14:58	07/15/18 23:03
Radium 226 - SM7508RaB (Cert	Uncertainty +/-	0.489 pCi/L			07/12/18 14:58	07/15/18 23:03

Sample: MW-3 MK-126612

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:25

Lab Log# AF28042-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	'Radium 228	0.878 pCi/L		0,565	97/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.432 pCl/L			07/03/18 16:00	07/06/18 11:49
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.546	07/12/18 14:58	07/15/18 23:33
Radium 226 - SM7500RaB (Cert 99517/D9923)	Uncertainty +/-	0.613 pCi/L			07/12/18 14:58	07/15/18 23:33

Sample: MW-4 MK-126613

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:55

Lab Log# AF28042-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D99231	Radium 228	BPQL pCi/L		0.590	07/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.438 pCi/L			07/03/18 16:00	07/06/18 11:49
Radium 226 - SM7500RaB (Cent #9517/D9923	Radium 226	BPQL pCi/L		0,553	07/12/18 14:58	07/16/18 00:03
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.532 pCi/L			07/12/18 14:58	07/16/18 00:03

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-5 MK-126614

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

6/27/18 12:18

Lab Log# AF28042-05

Method/Parameter	Test	Result	t	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL.	pCi/L		0.594	07/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.378	pCi/L			07/03/18 16:00	07/06/18 12:49
Radium 226 - SM7500RaB (Cert 99517/D9923)	Radium 226	BPQL	pCi/L		0.591	07/12/18 14:58	07/16/18 00:34
Radium 226 - SM7500RaB (Cert 19517/D9923)	Uncertainty +/-	0.514	pCi/L			07/12/18 14:58	07/16/18 00:34

Sample: MW-3 DUP MK-126615

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 11:25

Lab Log# AF28042-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert 89517/D9923)	Radium 228	0.884 pCi/L		0,699	97/03/18 16:00	07/06/18 11:49
Radium 228 - EPA 904/9320 (Cert 19517/109923	Uncertainty +/-	0.464 pCi/L			07/03/18 16:00	07/06/18 11:49
Radium 226 - SM7500RaB (Cert 19517/D9923	Radium 226	BPQL pCi/L		0.547	07/12/18 14:58	07/16/18 01:04
Radium 226 - SM7500RaB (Cert 19517/D9923)	Uncertainty +/-	0.549 pCi/L			07/12/18 14:58	07/16/18 01:04

Sample: Blank Water MR-126616

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

6/27/18 12:42

Lab Log# AF28042-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/09923)	Radium 228	BPQL pCi/L		0.855	07/03/18 16:00	07/05/18 11:40
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0,550 pCi/L			07/03/18 16:00	07/05/18 11:40
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0,615	07/12/18 14:58	07/16/18 OL:34
Redium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.504 pCi/L			07/12/18 14:58	07/16/18 01:34

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

MCL Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

Prectical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with PQL.

interferences/matrix effects

Below Practical Quantitation Limit (if applicable). BPOL.

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 92 12 - BLK = 2019, Isn 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Blank Data

QC Lab#	Test Group	Test Result PQL		Result		Flags
18G2055-BLK1	Radium 228 - EPA 904/9320 (Cart #9517/D9923	Radium 228	BPQL.	pCi/L	0.714	
18G2056-BLK1	Radium 226 - SM7500RaB (Curt #9517/D9923	Radium 226	BPQL	pCi/L	0.126	

(DUE VAM) OF C001 <4.C -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --Institute 2510 12036 N. Pennsylvania Phone (405) 751-3132 Oklabana Chy, OK 73120 Fee: (405) 751-3108 - Hazardous symples will be returned to cilent or will be disnoted of for a fee --(Worlding Days) 08% -- All Glass containers provided by Accurate Labs have Teffon Bred Rids --C001 <4°C C-28-6 coompined - Held instrument Californian e. A. Time 四世 (405) 553-4063 × × × × Detra/Time 822 bras 325 mulbaA C00] <1.C × * * SONH Due Date Cool efoc ST824 RUSH Request - 排料日 8 H (if available) * × 600 Sample Method: Cool <4°C Rec'd ç APVendorInvoices@ogs.com × H Spinouli. × × * RUSH 4.0 44 4 44 Standards 4 Mail Invoice To: Email invoice to: (918) 663-5400 Meter Type (553-4079) Company: Oklahoms Gas & Electric × 3 CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone: Breedings and Lab By: Fax Chain of Custody Address Phone #: under dans influence of Floreng Americ GWIDE-RL- Grandate under diest influence of Reservoirs de Received By midis ... Boron (EPA 200.8), Calcium (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Sulfane (EPA 300), Antimony, Americ, Bartum, Baylitun, Cadménn, Chromium, Coftall, Lead, Lithium, Molybdanum, Selenium, Thallium 6558 E. 40th Street Tube, OK 74074 MK- 13-6612 124.614 MK-126613 MR-124611 0199C1 -XW Signature: Oddahoma 850 PWS ID# Localiba Code B (405) 372-5300 (405) 372-5396 Certification by Company Official: Hearby certify that the above ampling occurred during a puried another the services (for the cherry for the above facility. SL = Shdge; O = Other Dete/Time Bax # (405) 553-4063 MW-2 MW-3 MW4 MW-5 MW-1 3 Yes or (DMR, PWS, Phone: Fax: ClearName Project Name-Mail Report to Smiths CA (2) oge. com, downa @oge. com O Ф Ö (R Coll) * Complete Entire COC to be in Compliance* 505 South Lowry Street Stilltwater, OK 74074 Jor de 8 ₩B 8 8 8 DW - Drinkingwater; WW = Waster GWUDL-FS- Groundmater under dome in Navece 080 Compliance 00 Reporting? 25 Michael 5501 Three Forts Road Pt. Gibson, OK 74434 Raw Alballatty Phone # (405) 553-4079 (TOC Raw)-6/27/18 6/27/18 Courage Instrumental Labor www.accuratelabs.com BACKET METERSON C Related to Los-In Prides By: (890) 516-5227 AF28042 Verk Order Referentished Br On-Site Info EPA 200.8) Sampled By: Matthe Gester क 70-P 6 50

* * C001 <4°C -- All samples are scheduled to be dispused of in 4 weeks of receipt at Accurate. --Patriete 03/0 12036 N. Pennsylvania Phone (405) 751-3132 Oklahoma Ciry, OK 73120 Fer: (405) 751-3108 250 -- Hazardous samples will be returned to cliant or will be disposed of for a fee-(Working Days) -- All Glass containers provided by Accurate Labs have Tellon lived has --× Cool -4°C (1.245.A(III)-quession Dato Tigo countrined Date . Time × × (405) 553-4063 Date/Time Date/Time 822 bas 325 amibes C001 <4°C H EONH Due Date C00] < toC 1.40 Field Instrument Calibration P. Z.B.I. RUSH Request Bid#-PO#-* 0.00 * (if available) Fax #: Final Read. Sample Method: Cool <4°C Rec'd ပ္ပ APVendorInvoices@oge.com Cheride, Thursday RUSH * D00] <4°C 中中 Standards 子子 Mail invoice In Email invoice to: (918) 663-5400 (918) 663-6300 (Note analysis & parits) Motor Type (553-4079 Company: Oldaharria Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Scociocal ALLA MA Phone: Chain of Custody Faor 7,3 GWUDD-175.- Grandrater mader direct of Paristy Streen GWUDD-112.- Grandrater unior effort between 11 Rannold dates | Boron (EPA 200.8), Calcium (EPA 200.7), Calculos (EPA 300), Finande (EPA 300), Sulfato (EPA 300), Received Br. Address Phono # *Antimony, Arzasic, Barium, Beryfflum, Caimism, Chronium, Cothelt, Lead, Lithium, Molybdenum, Selenium, Thalium 6558 E. 40th Street Tules, OK 74074 MR-126615] MK-1 2666 Stenations: Client I.D. / Samme Location 08 PWS ID# Oklahoma 3 (405) 372-5390 (405) 372-5396 6.20 Cartification by Constant Official: I hardy certily that the above sampling occurred during a period met that the semple of labora representative of a popeal constant during the the stores for the shore facility. WW = Fartenter; SL = Shage; O = Other Blank Water MW-3 DUP Date/Lime Date/Time Eax# (405) 553-4063 No Yes or Phone: PWS Grab +86 (0) Property and Turbidley (国の正)= CHarl Name O O Mall Report To SmithsCAudloge.com, downa@oge.com * Complete Entire COC to be in Compliance* (DMR. Sagaras 505 South Lowry Street Stillwader, OK 74074 Jordan) 1 **B** しょう Compliance Reporting? 5501 Three Forks Road Pt. Gibson, OK 74434 DW = Detaking water; Michael Raw Alladiatty (405) 553-4079 6/27/18 (TOC Raw)= 6/27/18 Accurate Environmental Labor www.accuratelabs.com D Relinquistmed to Late By: D Related to Lon- in Philon By: (800) 516-5227 4F 28042 Work-Order Accurate 8 On-She Infly Refinancialed By Sampled By: (HPA 200.8) Months Color 6 Phone #: Address

(SOC ATS) oblivuits

Sampling Log

	Date: 7-19-2018		
Sample ID	Weather Conditions and Temperature	: Clear	98°
Field Samplers	Names: Jason Chilless,	ermy Bladget	- Micheal Souder
	Groundwater Level (ft below TOC):		15: 20'4"
MW01	Sample Time: 9:35 Purge Volume: 4.6 gal Comments:	Field pH:	6.95 (9:41)
Q Allows	Groundwater Level (ft below TOC)::	5'8"	79:20'
MW02	Sample Time: 9:57		
141 44 42	Purge Volume: 7,4/gal	Field pH:	.91 (10:07)
	Comments:		
	Groundwater Level (ft below TOC)::	19'5"	15:22'6"
MW03	Sample Time: 10:18		
	Purge Volume: 2 gal	Field pH:	6.79 (10:29)
	Comments:		
	Groundwater Level (ft below TOC)::	12'	
MW04	Sample Time: 10:46		and the second s
	Purge Volume: 5,4/ gal	Field pH:	6.67 (10:50)
100m	Comments:		
	Groundwater Level (ft below TOC)::	11'3"	10:217"
MW05	Sample Time: //:/O	MMA-10 (****	
17E YV 120	Purge Volume: 5.1 gal	Field pH:	.78 (11:17)
	Comments:		
	- de construir de		

Additional Notes:

Groundwater Velocity

Date: 7/19/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μm/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1-MV	/2 :				
dh =	1.17	MW1 =	509	11.5	497.5
dl =	1053.2	MW2 =	502	5.67	496.33
I = dh/dl =	0.0011109				
V = KI/n =	2.68646E-07 ft/sec	= 0,081883 μm	/sec		
MW1 - MW	/3:				
dh =	11.916	MW1 =	509	11.5	
dl =	1390	MW3 =	505	19.416	485.584
I = dh/dl =	0.008572662				
V = KI/n =	2.07311E-06 ft/sec	= 0.631883 µm	/sec		
MW5 - MW	14:				
At.					
dh =	-0.25	MW5 =	506	11.25	494.75
dn = dl =		MW5 = MW4 =	506 507	11.25	494.75 495
dl =					
dl = I = dh/dl =	326.21	MW4 =	507		
dl = I = dh/dl =	326.21 -0.000766377 -1.85331E-07 ft/sec	MW4 =	507		
di = i = dh/di = V = Ki/n =	326.21 -0.000766377 -1.85331E-07 ft/sec	MW4 =	507	12	
dl = I = dh/dl = V = KI/n =	326.21 -0.000766377 -1.85331E-07 ft/sec 73: 9.166	MW4 = -0.05649 μm	507 /sec	12 11.25	495 494.75
dl = i = dh/dl = V = Kl/n = MW5 - MW dh = dl =	326.21 -0.000766377 -1.85331E-07 ft/sec 73: 9.166	MW4 = -0.05649 μm MW5 =	507 /sec 506	12 11.25	495 494.75

7-12-19 Attachment 2 : Groundy	vater Flow Direction Field Notes
WI-MUZ-MUS: HG: 0.01367 St/Et	
Dof: 280° clockwise from True North	
WI-MUZ-MUY: HC4: 0.00378 FH/FH	
DOF: 177.4° clockwise from True North	
WI-MOZ-MUX: HG: 0.00347 CH/CH	The state of the s
Dof: 190.21 clockwise from True North	
WI-MU3-MINE HG: 0.01839 SHE	VVVVVV
Dof: 163.99° clockwise from True North	The second secon
WHAU3-AUS HG: 0.01376 St/Ct	
Dof: 172.62° clockwise from True North	
11-MUN-MOST HELL 0.00128 FH/CH	
DOF: 251,48 clockwise from True North	-
32-163-164 HG: 0.02383 SHS	
Dof: 172.53° clockwise from Tour North	Millioner forware-module harm-generature and popularizabilities and the contract and the co
We-162-162 HG: 0.0167 SHS	
DOF: 186.7° clockwise from True North	
21-MUH-MUR HG1 0.00339 St/St	
DOF! 34,55° Clockwise from True North	
DB-MWY-MWX: HG: 0.16937 F4/F4	The state of the s
DoF: 141.22° Clockesisa from True North	- Translation
	General Communication of the C
To a second seco	and the state of t



July 30, 2018 Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National Environme Laboratory Accreditatio Kanasa CERT # E-10215

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

July 20, 2018

Time: 10:41

sample temp upon arrival at lab = 2°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

AG20019-01 AG20019-05 AG20019-02 AG20019-06 AG20019-03 AG20019-07

AG20019-04

Work Order:

AG20019

Report #

AG20019-0730180836

EPA Lab ID#'s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126635

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 9:35

Lab Log# AG20019-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chlorida	0.597 mg/L		0.500	07/23/18 12:04 BM	07/23/18 14:02 BM
Fluoride EPA 300.0	Fluoride	0.21 mg/L		0.10	07/23/18 12:04 BM	07/23/18 14:02 BM
Sulfate EPA 300.0	Sulfate	7.13 mg/L		0.500	07/23/18 12:04 BM	07/23/18 14:02 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	369.0 mg/L		25.0	07/23/18 12:37 ZS	07/25/18 10:46 25
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:12 PD
Amenic (As) EPA 200.8	Arsonic	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:12 PD
Berium (Ba) EPA 200.8	Barium	0.182 mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:12 PD
Berylium (Bc) EPA 200.8	Berylkium	BPQL mg/L		100,0	07/24/18 16:00 PD	07/25/18 13:12 PD
Borus (B) EPA 200.8	Boron	0.077 mg/L		0.025	07/24/18 16:00 PD	07/25/18 13:12 PD
Cedminm (Cd) EPA 200,8	Cadmium	BPQL mg/L		0.0010	07/24/18 16:00 PD	07/25/18 13:12 PD
Calsium (Ca) EPA 200.7	Calcium	110 mg/L		0.50	07/24/18 16:00 PD	07/25/18 17:24 LF
Chrosnium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/18 13:12 PD
Cobatt (Co) RPA 200.8	Cobalt	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/18 13:12 PD
Leid (Pb) EPA 200.8	Load	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:12 PD
Lithium (Li) EPA 6020A	Lithimn	BPQL mg/L		0.050	07/24/18 16:00 PD	07/25/18 12:53 LF
Mercury (Hg) EPA 245, 1	Mercury	BPQL ng/L		9.050	07/25/18 08:45 RW	07/25/18 15:18 RW
Malybdeman (Mo) EPA 200.8	Melybdenum	BPQL mg/L		0,005	07/24/18 16:00 PD	07/25/18 13:12 PD
lelenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	07/24/18 16:00 PD	07/25/18 13:12 PD
Thallium (TI) EPA 200.8	Thellium	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:12 PD

Sample: MW-2 MK-126636

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 9:57

Lab Log# AG20019-02

Method/Parameter	Test	Result 1	Notes PQL#	Prep Info	Analysis Info
Chluride EPA 300.0	Chlorids	40.8 mg/L	5,00	07/23/18 12:04 BM	07/23/18 [5:11 BM
Fluoride EPA 300.0	Fluorido	0.22 mg/L	0.10	07/23/18 12:04 BM	07/23/18 15:11 BM
Sulfate EPA 300.0	Sulfate	109 mg/L	5,00	97/23/18 12:04 BM	07/23/18 15:11 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	595.0 mg/L	25,0	07/23/18 12:37 ZS	07/25/18 10:46 ZB
Antimouy (Sb) EPA 200,8	Antimony	BPQL mg/L	0.005	07/24/18 16:90 PD	07/25/18 L3:17 PD
Arsenio (As) EPA 200.8	Arpenic	BPQL mg/L	0,0005	07/24/18 16:00 PD	07/25/18 13:17 PD
Barium (Ba) EPA 200.8	Barlom	0.250 mg/L	0.005	07/24/18 16:00 PD	07/25/18 13:17 PD
Beryllium (Be) EPA 200,8	Beryllium	BPQL mg/L	9,001	07/24/18 16:00 PD	07/25/18 13:17 PD
Boron (B) EPA 200.8	Boron	0.222 mg/L	0.025	07/24/18 16:00 PD	07/25/18 13:J7 PD
Cedmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	07/24/18 16:00 PD	07/25/18 13:17 PD
Celeiem (Ca) EPA 200.7	Calcium	132 mg/L	0.50	07/24/18 16:00 PD	07/25/18 17:27 LF
Chromium (Cr) EPA 200.8	Chromism	BPQL mg/L	9.010	07/24/18 16:00 PD	07/25/18 13:17 PD
Cobalt (Co) RPA 200.8	Cobalt	BPQL mg/L	0.010	07/24/18 16:00 PD	07/25/18 13:17 PD
Lead (Pb) BPA 200.8	Load	BPQL mg/L	0.0605	07/24/18 16:00 PD	07/25/18 13:17 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	07/24/18 16:00 PD	07/25/18 12:57 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0,050	07/25/18 08:45 RW	07/25/18 15:21 KW

505 S. Lowry Street Stillwater, OK 74074 405-372-5300

Samule:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 9:57 Lab Log# AG20019-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysia Info
Molybdenum (Mo) EPA 200.8	Molybdamun	0.005 mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:17 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	07/24/18 16:00 PD	07/25/18 13:17 PD
Thallium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:17 PD

Sample: MW-3 MK-126637

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:18

Lab Log# AG20019-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	174 mg/L		12.5	97/23/18 12:04 BM	07/23/18 15:57 BM
Fluorida HPA 300.0	Fluoride	0.14 mg/L		0.10	07/23/18 12:04 BM	07/23/18 15:34 BM
Sulfate EPA 300.0	Sulfete	200 mg/L		12.5	07/23/18 12:04 BM	07/23/18 15:57 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1102 mg/L		25.0	07/23/18 12:37 Z8	97/25/18 10:46 2S
Antimeny (Sb) EPA 200.8	Antimony	BPQL mg/L		0,005	07/24/18 16:00 PD	07/25/18 13:22 PD
Assenio (As) EPA 200.8	Arzenic	BPQL mg/L		0,0003	07/24/18 16:00 PD	07/25/18 13:22 PD
Barium (Ba) EPA 200.8	Barium	0.327 mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:22 PD
Beryllium (Be) EPA.200.8	Beryllium	BPQL mg/L		0.001	07/24/18 16:00 PD	07/25/18 13:22 PD
Boron (B) EPA 200.8	Boron	0.067 mg/L		0.025	07/24/18 16:00 PD	07/25/18 13:22 PD
Cadmium (Cd) EPA 200.8	Cedanium	BPQL mg/L		0,0010	07/24/18 16:00 PD	07/25/18 13:22 PD
Celeium (Ca) HPA 200.7	Culcium	236 mg/L		0.50	07/24/18 16:00 PD	07/25/18 17:30 LF
Chrondum (Cr) EPA 200.8	Chromism	BPQL mg/L		0,010	07/24/18 16:00 PD	07/25/18 13:22 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQ1 mg/L		0.010	07/24/18 16:00 PD	07/25/18 13:22 PD
Lead (Pb) EPA 200,8	Lend	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:22 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/24/18 16:09 PD	07/25/18 13:02 LF
Mercety (Hg) EPA 245.1	Mercury	BFQL ng/L		0.050	07/25/18 08:45 RW	07/25/18 15:25 RW
Molybdezum (Mo) EPA 200,8	Molybdenum	0.006 mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:22 FD
Relembum (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	07/24/18 16:00 PD	07/25/18 13:22 PD
Thallium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:22 PD

Sample: MW-4 MK-126638

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20019-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Enfo
Chloride EPA 300.0	Chloride	141 mg/L		25.0	07/23/18 12:04 BM	07/23/18 16:43 BM
Fluoride EPA 300.0	Pluonide	0.14 mg/L		0.10	07/23/18 12:04 BM	07/23/18 16:20 BM
Sulfate EPA 300.0	Sulfate	363 mg/L		25.0	07/23/18 12:04 BM	07/23/18 16:43 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1420 mg/L		25.0	07/23/18 12:37 ZS	07/25/18 10:46 28
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	07/24/18 16:00 PD	07/25/18 13;28 PD
Arsonio (As) EPA 200.8	Arsenic	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:28 PD
Barium (Ba) EPA 200.8	Barium	0.263 mg/L		0.005	07/24/18 16:00 PD	07/25/18 13:28 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L		0.001	07/24/18 16:00 PD	07/25/18 13:28 PD
Boron (B) EPA 200.8	Boron	0.062 mg/L		0.025	07/24/18 16:00 PD	07/25/18 13:28 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	07/24/18 16:00 PD	07/25/18 13:28 PD

505 S. Lowry Street Stillwater, OK 74074

405-372-5300

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20019-04

Method/Parameter	Test	Remit	Notes	PQL#	Prep Info	Analysis Info
Calcium (Ca) EPA 200.7	Calcium	345 mg/L		0.50	07/24/18 16:00 PD	07/25/18 17:32 LF
Chromium (Cr) EPA 200.8	Chromina	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/18 13:28 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/\$8 13:28 PD
Lead (Pb) EPA 200.8	Load	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:28 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	07/24/18 16:00 PD	07/25/18 13:06 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	07/25/18 08:45 RW	07/25/18 15:28 RW
Molybdenum (Mo) EPA 200.8	Molybdenum	0.006 mg/L		0.005	97/24/18 16:00 PD	07/25/18 13:28 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	07/24/18 16:00 PD	97/25/18 13:28 PD
Thallium (TI) EPA 200,8	Thellium	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 13:28 PD

Sample: MW-5 MK-126639

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 11:10

Lab Log# AG20019-05

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	23.8 mg/L	12.5	07/23/18 12:04 BM	07/23/18 17:29 BM
Fluoride EPA 300.0	Pluoride	0.12 mg/L	0.10	07/23/18 12:04 BM	07/23/16 17:06 BM
Sulfate EPA 300.0	Sulfate	147 mg/L	12.5	07/23/18 12:04 BM	07/23/18 17:29 BM
Total Dissolved Sotids SM2540 C	Total Dissolved Solids	839.0 mg/L	25.0	07/23/18 12:37 ZS	07/25/18 10:46 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	07/24/18 16:00 PD	07/25/18 13:49 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L	0.0005	07/24/18 16:00 PD	07/25/18 13:49 PD
Barium (Ba) EPA 200.8	Barham	0.153 mg/L	0.005	07/2A/18 16:00 PD	07/25/18 13:49 PD
Beryllium (Bo) EPA 200.8	Beryllium	BPQL mg/L	0.001	07/24/18 16:00 PD	07/25/18 13:49 PD
Boroz (B) EPA 200.8	Boron	0.252 mg/L	0.025	07/24/18 16:00 PD	07/25/18 13:49 PD
Cadmium (Cd) EPA 200,8	Cadminu	BPQL mg/L	9,0010	07/24/18 16:00 PD	07/25/18 13:49 PD
Calcium (Ca) SPA 200.7	Calcium	203 mg/L	0.50	07/24/18 16:00 PD	07/25/18 17:35 LF
Chromium (Cr) EPA 208.8	Chromium	BPQL mg/L	0.010	07/24/18 16:00 PD	07/25/18 13:49 PD
Cobalt (Co) EPA 200.8	Cobolt	BPQL mg/L	0.010	07/24/18 16:00 PD	07/25/18 13:49 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L	0.0005	07/24/18 16:00 PD	07/25/18 13:49 PD
Lithium (Li) EPA 6020A	Lithim	BPQL mg/L	0,050	07/24/18 16:00 PD	07/25/18 13:10 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0,050	07/25/18 08:45 RW	07/25/18 15:31 RW
Molybdemma (Ma) EPA 200.8	Melybdenum	0,005 mg/L	0.005	97/24/18 16:00 PD	07/25/18 13:49 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L	0.0050	07/24/18 16:00 PD	07/25/18 13:49 PD
Thallium (TI) EPA 200.8	Thallium	BPQL mg/L	0,0005	07/24/18 16:00 PD	07/25/18 13:49 PD

Sample: MW-4 DUP MK-126640

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20019-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chleride	148 mg/L		25,0	07/23/18 12:04 BM	07/23/18 19:01 BM
Fluoride EPA 300.0	Fluoride	0.14 mg/L		0.10	07/23/18 12:04 BM	07/23/18 18:38 BM
Sulfate EPA 300.0	Sulfinte	356 mg/L		25.0	07/23/18 12:04 BM	07/23/18 19:01 BM
Total Dissolved Solids SM2540 C	Total Dissolvad Solids	1430 mg/L		25.0	07/23/18 12:37 Z8	07/25/18 10:46 28

505 S. Lowry Street

Stillwater, OK 74074 405-372-5300

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20019-06

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Antimony (Sb) EPA 200.8	Autimony	BPQL mg/L	0.005	07/24/18 16:00 PD	07/25/18 13:55 PD
Amenic (Am) EPA 200.8	Arrenio	BPQL mg/L	0.0005	07/24/18 16:00 PD	97/25/18 13:55 PD
Barium (Ba) EPA 200,8	Barion	0,24% mg/L	0.005	07/24/18 16:00 PD	07/25/18 13:55 PD
Beryllium (Bc) EPA 200.8	Beryllium	BPQL mg/L	0.001	07/24/18 16:00 PD	07/25/18 13:55 PD
Boron (B) EPA 200.8	Boren	0.066 mg/L	0.025	07/24/18 16:09 PD	07/25/18 13:55 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	07/24/18 16:00 PD	07/25/18 13:55 PD
Calcium (Ca) EPA 200.7	Calcium	329 mg/L	0.50	07/24/18 16:00 PD	07/25/18 17:38 LF
Chromism (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	07/24/18 16:00 PD	07/25/18 13:55 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	07/24/18 16:00 PD	07/25/18 13:55 PD
Lead (Pb) EPA 200.9	Lead	BPQL mg/L	0.0005	07/24/18 16:00 PD	07/25/18 13:55 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	07/24/18 16:00 PD	07/25/18 13:15 LF
Mercury (Hg) EPA 245 1	Mercury	BPQL ug/L	0.050	97/25/1B 08:45 RW	07/25/18 15:34 RW
Molybdenum (Mo) EPA 200.8	Molybdenum	0.005 mg/L	9.005	07/24/18 16:00 PD	07/25/18 13:55 PD
Selenium (So) EPA 200.8	Selenium	BPQL mg/L	0.0050	07/24/18 16:00 PD	07/25/18 13:55 PD
Thellium (T1) EPA 200.8	Thallium	BPQL mg/L	0.0005	07/24/18 16:00 PD	07/25/18 13:55 PD

Sample: Blank Water MK-126641

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 11:25 Lab Log# AG20019-07

Metbod/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Enfe
Chloride EPA 300.0	Chloride	BPQL mg/L		0.500	07/23/18 12:04 BM	07/23/18 19:24 BM
Pluoride EPA 300.0	Fluoride	BPQL mg/L		0.10	07/23/18 12:04 BM	07/23/18 19:24 BM
Sulfate EPA 300.0	Sulfitte	BPQL mg/L		0.500	07/23/18 12:04 BM	07/23/18 19:24 BM
Total Dissolved Solids SM2540 C	Tetal Dissolved Solids	BPQL mg/L		25.0	07/23/18 12:37 ZS	07/25/18 10:46 ZS
Antimony (Sh) EPA 200.8	Antinanuy	BPQL mg/L		0,005	07/24/18 16:00 PD	07/25/18 14:00 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 14:00 PD
Barium (Ba) EPA 200.8	Barium	BPQL mg/L		0.005	07/24/18 16:00 PD	07/25/18 14:00 PD
Beryllism (Be) EPA.200.8	Beryllium	BPQL mg/L		0,001	07/24/18 16:00 PD	07/25/18 14:00 PD
Boron (B) EPA 200.8	Boron	BPQL mg/L		0.025	07/24/18 16:00 PD	07/25/18 14:00 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	07/24/18 16:00 PD	07/25/18 14:00 PD
Calcium (Ca) EPA 200.7	Calcium	BPQL mg/L		0.10	07/24/18 16:00 PD	07/25/18 16:59 LF
Chromium (Cr) HPA 200.8	Chromium	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/18 14:00 PD
Cobalt (Co) EPA 200.8	Cohelt	BPQL mg/L		0.010	07/24/18 16:00 PD	07/25/18 14:09 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0.0005	97/24/18 16:00 PD	07/25/18 14:00 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0,050	07/24/18 16:00 PD	07/25/18 13:32 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	07/25/18 08:45 RW	07/25/18 15:37 RW
Malybdenum (Mo) BPA 200.8	Molybdenun	BPQL mg/L		0.005	07/24/18 16:00 PD	07/25/18 14:00 PD
Selenium (Se) EPA 200.8	Solenium	BPQL mg/L		0.0050	07/24/18 16:00 PD	67/25/18 14:00 PD
Challism (TI) EPA 200.8	Thailium	BPQL mg/L		0.0005	07/24/18 16:00 PD	07/25/18 14:00 PD

Notes and Definitions

#52	Analyse recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Contaminant Limit (MCL) for BPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit.
PQL	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects
BPQL	Below Practical Quantitation Limit (if applicable).
The "Prep Da	ne" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

■ 405-372-5300 ■ Fax: 405-372-5396

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18G2329-BLKI	Chloride EPA 300.0	Chloride	BPQL mg/L	0.500	
18G2329-BLK1	Phoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
18G2329-BLK1	Sulfate EPA 300.0	Sulfate	BPQL mg/L	0.500	
18G2333-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25,0	
18G2446-BLK1	Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	
18G2446-BLK1	Arsonio (As) EPA 200.8	Arsonic	BPQL mg/L	9.0005	
18G2446-BLK1	Barium (Ba) EPA 200.8	Berium	BPQL mg/L	0,005	
18G2446-BLK1	Beryllium (Be) EPA 200.8	Beryllium.	BPQL mg/L	0,001	
18G2446-BLK1	Boson (B) EPA 200.8	Boron	BPQL mg/L	0,025	
18G2446-BLK1	Cadmium (Cd) EPA 200,8	Cadmium	BPQL mg/L	0.0010	
18G2448-BLK1	Calcium (Ca) EPA 200.7	Calcium	BPQL mg/L	0.10	
18G2446-BLK1	Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L	0.010	
8G2446-BLK1	Cobalt (Co) EPA 200,8	Cobalt	BPQL mg/L	0.010	
18G2446-BLK1	Lead (Pb) EPA 200.8	Load	BPQL ng/L	0.0005	
18G2447-BLK1	Lithium (Li) EPA 6020A	Lithien	BPQL mg/L	0.050	
8G2529-BLK1	Mercury (Hg) EPA 245.3	Mercury	BPQL ug/L	0.050	
8G2446-BLK1	Molybdomm (Mo) EPA 200,8	Molybdanum	BPQL mg/L	0.005	
8G2446-BLK1	Scienium (Se) EPA 200.8	Selenium	BPQL mg/L	0.0050	
8G2446-BLK1	Thallium (TI) EPA 200,8	Thallium	BPQL mg/L	0.0005	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
18G2329-DUP1	Chloride EPA 300.0	Chlorido	AQ20019-07	BPQL	BPQL	UDL	20	
18G2329-DUP1	Flooride EPA 300,0	Fluoride	AG20019-07	BPQL	BPQL	UDL	20	
18G2329-DUP1	Sulfate EPA 300,0	Sulfate	AQ20019-07	BPQL	BPQL	UDL	20	

Laberatory Control Sample Data

Lab QCF	Test Group	Test Name	LCS Result	Spilm Level	Units	% Rec.	Control Limits	Magi
18G2329-B81	Chlorido EPA 300.0	Chloride	2.94	3,000	mg/L	98	90 - 110	
18G2329-B\$1	Fluoride EPA 300.0	Fluoride	1.89	2.000	mg/L	94	90 - 110	
8G2329-BS1	Sulfate EPA 300.0	Sulfate	15.2	15.00	mg/L	101	90 - 110	_
18G2333-B51	Total Dissolved Solids SM2540 C	Total Dissolved Solids	945,0	1000	mg/L	94	8 0 - 120	
18G2446-BS1	Antimony (Sb) EPA 200.8	Antimony	0.101	0.1000	mg/L	101	85 - 115	
8G2446-BS1	Arsenic (As) EPA 200.8	Assenio	0.101	0.1000	mg/L	101	85 - 115	
18G2446-BS1	Barium (Ba) EPA 200.8	Berium	0.103	0.1000	mg/L	103	85 - 115	
18G2446-BS1	Beryfliam (Be) EPA 200.8	Beryllium	0.101	0.1000	mg/L	101	85 - 115	
18G2446-BS1	Boron (B) EPA 200.8	Boron	0.095	0.1000	mg/l.	95	85 - 115	
18G2446-BS1	Cadmium (Cd) EPA 200.8	Cadmium	0.101	0.1000	mg/L	101	85 - 115	
18G2446-BS1	Chromium (Cr) EPA 200.8	Chromium	0.103	0.1000	mg/L	103	85 - 115	
	Cobalt (Co) EPA 290.8	Cobalt	0.100	0.1000	mg/L	100	85 - 115	
18G2446-B81	Lead (Pb) EPA 200.8	Load	0.0997	0.1000	mg/L	100	85 - 115	
18G2446-BS1	Molybdeman (Mo) EPA 200.8	Molybdemm	0,101	0,1000	mg/L	101	85 - 115	
18G2446-BSI	Selenium (Sc) EPA 290.8	Selenium	0.111	0,1000	mg/L	111	85 - 315	
18G2446-BS1	Thallium (TI) KPA 200.8	Thalliten	0.1082	0.1000	mg/L	108	85 - 115	
18G2446-BS1		Lithium	0.946	1.000	mg/L	95	85 - 115	
18G2447-BS1	Lithium (Li) EPA 6020A	Celcium	1.93	2,000	mg/L	96	85-115	
18G2529-BS1	Calcium (Ca) EPA 200.7 Mercury (Hg) EPA 245.1	Mercury	1,85	1.667	ng/L	11.1	85 - 115	

Matrix Spike Data

QC Lab#	Test Group	Test Name	Source Sample	Sample Result	Units	Spika Result	Spike Level	% Rec.	Acceptance Limits	Flags
18G2329-MS1	Chloride EPA 300.0	Chloride	AG20019-07	BPQL	mg/L	3.21	3.334	96	80 - 120	
	Fineride EPA 300.0	Fluorida	AG20019-07	BPQL	mg/L	3.07	3,334	92	80 - 120	
18G2329-M81	Sniffete EPA 300.0	Sulfate	A/G20019-07	BPQL	mg/L	3.01	3.334	90	80 - 120	
	Antimony (8b) EPA 200.8	Antimony	AG20019-01	BPQL	mg/L	0.098	0.1000	98	85 - 115	
18G2446-MS1	Arsenic (As) EPA 200.8	Azuenio	AG20019-01	BPQL	mg/l.	0.0878	0.1000	88	85 - 115	
18G2446-MS1	Berium (Be) EPA 200.8	Barkun	AG20019-01	0.182	ng/L	0.277	0.1000	95	85 - 115	
18G2446-MS1	Beryllian (Bc) EPA 200.8	Beryllium	AG20019-01	BPQL	mg/L	0.097	0.1000	97	85 ~ 115	
18G2446-MS1	Boron (B) HPA 200,8	Boron	AG20019-01	0.077	mg/L	0.187	0.1000	110	85 - 115	
18G2446-MS1	Cadmium (Cd) EPA 200.6	Cedmium	AG20019-01	BPQL	mg/L	0.0953	0.1000	95	85 - 115	
18G2448-MS1	Calcium (Ca) EPA 200.7	Calcium	AG20019-07	0.09	mg/L	2.00	2.000	96	85 - [15	
18G2446-MS1	Chromium (Cr) EPA 200,8	Chromium	AG20019-01	BPQL	mg/L	0.084	0.1000	84	85 - L15	#52
18G2446-MS1	Cobalt (Co) EPA 200,8	Cobalt	AG20019-01	BPQL	mg/L	0.089	0.1000	89	85 - 115	
18G2446-MS1	Load (Pb) EPA 200.8	Load	AG20919-01	BPQL	mg/L	0,101	0.1000	101	85 - 115	
18G2447-MS1	Lithium (Li) EPA 6020A	Litham	AG20019-01	BPQL	mg/L	0.888	1.000	89	85 - 11.5	
18G2446-M81	Mulybdenum (Mo) EPA 200.8	Molybdonsm	AG20019-01	BPQL	mg/L	0.099	0.1000	99	RS - 115	
18G2446-MS1	Scienium (Sc) EPA 200.8	Selenium	AG20019-01	BPQL	mg/L	0.0952	0,1000	95	85 - 115	
18G2446-MB1	Thallium (TI) EPA 200.8	Thellium	AG20019-01	BPQL	mg/L	0.1037	0.1000	104	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Matrix Spike Duplicate Data

QC lab#	Test Group	Test Name	Sample Result	Spike Result	Spike Level	Units	% Rec.	Rec.	% RPD	RPD Limit	Plags
18G2446-MBD1	Antimony (Sb) EPA 200,8	Antimony	BPQL	9.107	0.1000	mg/L	107	85-115	8	20	
18G2446-MSD1	Ansenic (As) EPA 200.8	Arsenio	BPQ1.	0.0915	9,1000	mg/L	92	85-115	4	20	
18G2446-MSD1	Barium (Ba) EPA 200.8	Baricon	0.182	0.297	0.1000	mg/L	115	85-115	7	20	
18G2446-M8D1	Beryllium (Bo) EPA 200.8	Beryllium	BPQL	0.103	0.1000	mg/L	103	85-115	6	20	
18G2446-MSD1	Boron (B) EPA 200.8	Boren	0,077	0.186	0.1000	mg/L	108	85-115	0,9	20	
18G2446-MSD1	Cedmium (Cd) EPA 200.8	Cedmium	BPQL	0.103	0.1000	mg/L	103	85-115	8	20	
18G2448-MSD1	Calcium (Ca) EPA 200.7	Calcium	0.09	2,61	2,000	mg/L	96	85-115	0.5	20	
18G2446-MSD1	Chromium (Cr) EPA 200.8	Chromium	BPQL	0.087	0.1000	mg/L	87	85-115	4	20	
18G2446-MSD1	Cobalt (Co) EPA 200.8	Cobelt	BPQL	0.094	0.1000	mg/L	94	85-115	6	20	
18G2446-MSD1	Lead (Pb) EPA 200.8	Lead	BPQL	0.111	0.1000	mg/L	111	85-115	10	20	
18 02447-MS D1	Lithium (Li) EPA 6029A	Lithium	BPQL	0.892	1.000	mg/L	89	85-115	0,5	20	
18G2446-MBD1	Molybdonum (Mo) EPA 200,8	Molybdenum	BPQL	0.107	0.1000	mg/L	107	85-115	8	20	
18G2446-MSD1	Selenium (Sc) EPA 200.8	Selenium	BPQL	0.100	0.1000	mg/L	100	85-115	5	20	
8G2446-MSD1	Thallium (TI) EPA 209.8	Thallium	BPQL	0.1118	0.1900	mg/L	112	85-115	8	20	

C001 < 4°C Fluoride (EPA 300) Phone: (405) 751-3132 Fax: (405) 751-3108 -- Hazardons sampler will be returned to citent or will be disposed of for a fee --(Worlding Days) -- All samples are schooluled to be disposed of in 4 weeks of receipt as Accurate. Mercury (EPA 245.1) Þ¢ (100) <tab/> -- All Glass containers provided by Accurate Labs have Teffon lines lids Dain Times 7 18 (403) 553-4063 coombined × Date . Time 4500883927 Date/Time Jot> [00] A. S. R. C. Field byshoot in California, N. (stranumoc SONH 対 × 対 × Oklahoma Ciry, OK 73120 Cool ctoC Due Date RUSH Request 12036 N. Pennsylvania Hid # FO# (if available) Pinal Read. Fex #: × × × × Sample Method C00] <1.C SQL Rec'd 0 APVendorInvoices@oge.com Boron, Calcium, Chloride, Fluoride, RUSH × × × Standards Mail lavoice To: Email invoice to: (C) S (918) 663-5400 Meter Type (553-4079 Company Oklahoma Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone: Received at Lab Dy Fax: Chain of Custody Phone it: *Antimony, Arsznic, Barium, Beryllium, Cedmium, Chromium, Colball, Lend, Lifthium, Molybdenum, Selenium, Thalkum (UDI-850— Countries made altes in former of Rossin, Streen GWUDI-812. Countries major direct influence in Reservabilities Boyon (EPA 200-8), Cafedram (EPA 200-7), Calculde (EPA 300), Plenoride (EPA 300), Sulfate (EPA 300). 6558 E. 40th Street Tutsa, OK 74074 MK-121630 MK- 0-6637 MK-126638 MK-13663 MK-12463 PWS ID# Odahoma 10 372-5300 District Control Certification by Company Officials I havely certify that the above sampling occurred during a period such that the samples is the above facility. O = Other Date/Time Eax#: (405) 553-4063 MW-3 MW-5 MW-2 MW-4 MW-1 (405) WW - Wasternater; SL - Stadys; 80 (DMCR, PWS, Phone: 63 Terbidity (A.Coll)= SmithsCA@oge.com, downa@oge.com Pax O ٥ ¢ ¢ O * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK, 74074 アプレベ GW GW GW GW GW mg/L Reporting? 2550 010 550 0111 DY 5501 Three Forks Road Ft. Gibson, OK 74434 DW = Drinkhywater; Michel Property of Rary Alkalinhty Secretary By: (405) 553-4079 (TOC Raw) 7/19/18 7/19/18 7/19/18 7/19/18 7/19/18 www.accuratelabs.com Accurate Enforcemental C Referentiated to Lab By: (800) 516-5227 PLACTONG Mail Report To Refinquished By On-Site Info Marks Colles EPA 200.8] 9 Phone # Address

0,07 Fluoride (EPA 300) XX Coni <4°C 30 12036 N. Pennaylvania Phone: (405) 751-3132 Oldshemt Cly, OK 73120 Fac: (405) 751-3108 -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --Tume Indian -- Hazardous samples will be returned to citant or will be disposed of or a sec-(Working Days) -- All Glass containers provided by Accurate Labs have Tellon lined lids --Meroury (EPA 245.1) C00] <4°C × × 8004 7-20-5 Service Control bonidayo Esc. (405) 553-4063 × × Date . Time DetecTime 4500883927 822 bas 325 mulber Job> 1000 comments) EONH × × Metals* (see Cool <4°C Due Date Rec'd 2.5% RUSH Request (if available) £ お 日本 日本 XX First Read. Semple Method Cool <4°C SQL APVendorInvoices@oge.com Boron, Celoium, Chloride, Fluoride, RUSH × × C004 cd.C Standarde Mail Invoice To: Email invoice to: ന m (918) 663-5400 (918) 663-6300 (353-4079) Contours: Oldshorin Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone: Fex: Received at Lab By Phone # Chain of Custody Reserved By *Antimony, Arsenie, Berfum, Beryllium, Cadmisme, Chromism, Colinit, Lead, Lithium, Mahydeman, Selezium, Thallium Borun (EPA 200.8), Culairan (EPA 200.7), Chlaride (EPA 300), Pluoride (EPA 309), Sulfitte (EPA 300), 6558 E. 40th Street Tulan, OK 74074 MK-1266/1 MK-1266-1 Signature PWS ID# Oktahoma 70 Dester Trans (405) 372-5300 WW = Fratemoder; St. = Shales; O = Other render-filters inflorms of Floride, Streen GWUDE-RLm Grovenhauer; Certification by Company Officials I bready certify that the above standing cocurred during a period such that the semi-dent states representative of a spical revealing the discharge for the above facility. Blank Water MW4DUP Detr/Dur Ext. (405) 553-4063 ò (DAMR, PWS, Phone: Fan: 23 SmithsCA/alore.com, downagoge.com O (A.Coll)= Ü Orado * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK 74074 8 B WW = Waster 135 Reporting 940 5501 Three Forks Road Ft. Gibson, OK 74434 からして DW = Debeldaguester; -- 2 GWUDI-FIS- Organias Rane Albailtalty (405) 553-4079 7/19/18 (TOC Raw)= 7/19/18 WWW.accuratelabs.com (800) 516-5227 CCUrate Enforcemental Laboration D Reigid to Low-in Prides Br. O Refinerished to Lat Br OP-Sterfafe: Mail Report To Relinguished By Benils. Sampled Pr. 4 Metrics Coules (HPA 200.8) Phone #: Address

Attachment 2 : Analytical Report



August 22, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



Program Kansas CERT # E-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

July 20, 2018

Time: 10:41

sample temp upon arrival at lab = 2°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

AG20044-01 AG20044-05 AG20044-02 AG20044-06 AG20044-03 AG20044-07

AG20044-04

Work Order:

AG20044

Report #

AG20044-0822180927

EPA Lab ID#'s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahema Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes. SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

This report is to only be replicated in its entirety.

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-1 MK-126635

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 9:35

Lab Log# AG20044-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Into	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.750	07/30/18 11:20	08/03/18 07:45
Radhum 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	435 pCi/L			07/30/18 11:20	08/03/18 07:45
Radium 226 - SM7500RaB (Cert #9517/D9923)	Redium 226	BPQL pCi/L		0.223	08/01/18 08:40	08/02/18 13:40
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.154 pCi/L			08/01/18 08:40	08/02/18 13:40

Sample: MW-2 MK-126636

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 9:57

Lab Log# AG20044-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.563	07/30/18 11:20	08/03/16 07:45
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty 1/-	0.413 pCi/L			07/30/18 11:20	08/03/18 07:45
Radium 226 - SM7500Ra® (Cert #9517/D9923)	Radium 226	1.43 pCi/L		0.200	08/01/18 08:40	08/02/18 13:40
Radium 226 - 8M7500RaB (Cert	Uncertainty +/-	9.461 pCi/L			08/01/18 08:40	08/02/18 13:40

Sample: MW-3 MK-126637

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:18

Lab Log# AG20044-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redium 228	BPQL pCi/L		0.813	07/30/18 11:20	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert	Uncertainty +/-	0.562 pCl/L			07/30/18 11:20	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCVL		0.339	08/91/18 08:40	08/02/18 13:40
Radium 226 - SM7500RaB (Cest	Uncertainty +/-	0,269 pCi/L			08/01/18 08:40	08/02/18 13:40

Sample: MW-4 MK-126638

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20044-04

Method/Parameter	Tesi	Result Notes	PQL#	Prep Info	Analysis Info
Radium 228 - BPA 904/9320 (Carl #9517/D99231	Rødium 228	1.29 pCi/L	0.665	07/30/18 11:20	08/15/18 09:20
Radjum 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.495 pCi/L		07/30/18 11:20	08/15/18 09:20
Radium 226 - SM7500RaB (Cent #9517/D9923	Radium 226	0.311 pCi/L	0.236	08/01/18 08:40	08/02/18 13:40
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.233 pCi/L		08/01/18 08:40	08/02/18 13:40

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Attachment 2 : Analytical Report

Page 2 of 6

AG20044-0822180927

Sample: MW-5 MK-126639

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 11:10

Lab Log# AG20044-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cest #9517/D9923)	Radium 228	BPQL pCi/L		0.593	07/30/18 11:20	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.420 pCi/L			07/30/18 11:20	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.228	08/01/18 08:40	08/02/18 13:40
Redium 226 - SM7500RaB (Cert	Uncertainty +/-	0.120 pCi/L			08/01/18 08:40	08/02/18 13:40

Sample: MW-4 DUP MK-126640

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 10:46

Lab Log# AG20044-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923	Radium 228	BPQL pCi/L		0,637	98/02/18 10:09	08/09/18 09:15
Redinm 228 - EPA 904/9320 (Cert 995 17/D9923)	Uncertainty 4/-	0.419 pCi/L			08/02/18 10:09	08/09/18 09:15
Radium 226 - SM7500RaB (Cent #9517/D9923)	Radáun 226	0,449 pCi/L		0.299	08/03/18 09:07	08/09/18 14:21
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.381 pCi/L			08/03/18 09:07	08/09/18 14:21

Sample: Blank Water MR-126641

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

7/19/18 11:25

Lab Log# AG20044-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Infe
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCVL		0.599	07/30/18 11:20	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.434 pCl/L			07/30/18 [1:20	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	0.595 pCi/L		0.215	08/01/18 08:40	08/02/18 13:40
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0,314 pCi/L			98/01/18 08;40	08/02/18 13:40

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

This compound was detected in the method blank above the PQL. BK

Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations. MCL

Analyte concentration may exceed regulatory limit. 8##

Practical Quantitation Limit - the method reporting limit (MRL) edjusted for any dilutions or other changes made to the sample to deal with PQL

interferences/matrix effects

Below Practical Quantitation Limit (if applicable). BPOL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 92 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

Blank Data

QC Lab#	Test Group	Test	R	leruit	PQL	Flags
18H1322-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL	pCi/L	0,503	
18H2178-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	9,561	pCi/L	0.369	_BK
18H1323-BLK1	Radium 226 - SM7500RaB (Cert #9517/D9923	Radium 226	BPQL	pCi/L	0.152	
18H2179-BLK1	Radium 226 - SM7500RaB (Cort #9517/D9923	Radium 226	BPQL	pCi/L	0.152	

Fluoride (EPA 300) 20124 -- All samples are schedulad to be disposed of in 4 weeks of receipt at Accurate. --751-3132 -- Manandous samples will be returned to elbent or will be disposed of for a tee --(Working Days) Moroury (BPA 245, 1) -- All Glass containers provided by Accurate Labs have Tejlon lines lids Phone: (405) Fax: (405) coombined (405) 553-4063 bd × Date, Time 4500883927 Date/Time 822 bas 322 maiba9 Onto 1000 comments) CONT Oklahoma City, OK 73120 Metals* (see Due Date Reld Instrument Calibration RUSH Request # P.H 12036 N. Pennsylvaniá PO#. (Havailable) Esst × Final Read. Sample Method SGT Rea'd 0 APVendorInvoices@oge.com Chloride, Fluoride, 54 RUSH Shandarda Analysts Mail lavoice To: Estatil invoice to: Presery. 4 en (918) 663-5400 (918) 663-6300 (ptk. Temp. Cubrille...) (note analysis & units) Meder Type (553-4079) Company Okláhoma Gas & Electric CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone Received at Lat. By Fax: Chain of Custody Phoma #: Rescired By: GWODLES» Generalmater maler divist Leftware in Finaling Samus GWODLESL.» Groundmate smiler divisit schemes of Beneradalites Boton (SPA 200.8), Calcisium (EPA 200.7), Chleride (EPA 300), Fluosida (EPA 300), Sulaine (EPA 300), "Antimory, Arsenic, Barium, Baryillum, Cadmium, Chromium, Colleck, Lend, Lithium, Mohodenum, Selemium, Thallum 6558 E. 40th Street Tulta, OK 74074 OK 7951-31 MR- 0.6631 MK- 26638 MK-13663 MK-12463 Clearly / Sall of London Oklahoma PWS ID# DEO / RPA Location Code 100 Destrus-372-5300 Certification by Centragary Official: I hardry certify that the shave ampting occurred during a period such that the snapshots representative of a repical operating day discharge for the above facility. O = Other Date/Time Ear#: (405) 553-4063 MW-4 MW-1 MW-2 MW-5 MW-3 (405) (405) SIL ... Shador; ģ Phone: Fax: 6 S. Û Turbidity (R.Coll)= SmithsCA(@oge.com, dowta@oge.com Project Name ø Ф Ü Ü Ċ Client Name-* Complete Entire COC to be in Compliance* (DMR. WW - Wartensater; 505 South Lowny Street Stillwater, OK 74074 アプレグ GW MO GW GW GW СоспрВялсе Reporting? 3401 7530 290 0 Ft. Gibson, OK 74434 5501 Three Forks Road DW - Drietingwater; M:chec Raw Altendialty (405) 553-4079 (TOC Raw)= 7/19/18 7/19/18 7/19/18 7/19/18 7/19/18 Accurate Environmental Labs www.accuratelabs.com Reporting Requirements (spinding (D-13 working cays) 20. Il Relo'd to Low-in Pridue fly. (890) 516-5227 C Relinguished to Leb Dr. X27.5 Mail Report To Work Order On-Site Info Accurate Sampled By: Marrie Codes 10 (EPA 209.8) P 9 9 Phone #:

Accurate Environmental Less Cillent Na Project IN Proje		Chain of Custody	Custo	1	Shriple	- So1	2.1%	20.00	ם	3	F
Environmental Lobe City Corder Date Time Adai Adai Adai Adai Adai Adai Adai Adai	3 7	OG&E)ay		> la	> Ia	ONE O) _o p> [0) ₀ \$> [0	0.00
Order Date Fine Semple Sample Semple	7.		OG&E Muskogee Power Plant	ower Plant	1	83	8		တ	တ	90
Dete Time Sample Sample Taken		CCRC	CCR Groundwater Monitoring	Monitoring					82	_	((
3401 81/61/L +C		i o	ple Lecation	(ptt. Temp. Chorine, (note analysis & units)		Boron, Calcium, Chloride, Fluoride	sa Am	Mctals* (see	Radium 226 and 2 combined	ATT ATT	Fluoride (EP 4 300
37.118	6	MW4DUP	MK- 764		6	×	×	×	×	×	×
		Blank Water	MK 2464/		m	×	×	×	×	K	×
					, sinimarician						
On-Site Info Raw Alkaflathy Th	Turblitty					Piold Instru	Ploid Instrument Calibration		1		1
Alegels Codes 10W	(A Colt)	Marger; O = Other	n make thet believe of Runsvillelle	200	×1.		First Kota	3			
Colorinati (* *) Borm (EPA 200.8), Calainn (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Sulfate (EPA 300), *Antimony, Assenic, Berjelton, Cadmiun, Chronistum, Collost, Lead, Liftium, Mohyddenum, Selenism, Thailium (EPA 200.8)	, Chloride ()	EPA 300), Fluorido (BP) , Lead, Liftimu, Molybd	A 300), Sulfite (RP.		All Glass containers provided by Accurate Labs have Teffon fined lids All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate Hazardons samples will be returned to olient ar will be dispused of for a fee	dufed to be di	by Accurate 1 Esposed of the red to oftent a	Lato have 4 weeks of ar will be d	Teffor Imed Treceipt at A fly used of	Courage or a lee	1 1
Contification to Commeny Official: 1 hands sentify that the above sampling ecounted during a period	ve tameling o	boling a pariod	Signaturo;	1	1			S	Date/Time		1
grand that the name of bear operationally of a sylical operation of Stransfeed By:	By discharge		company: Oklaho	Company Oldalyonia Gas & Electric	9	Sample	Sample Method:		3	2	2
VI CHER DOCK								Park	Perturiffense		
Refinantialed Lav.		12,00 Alyes	4		*	11					Ti
o Referentived to Late By:		Distriction of the Control of the Co	HOI	Heseived at Lab Dy	1 11/2	1	Rec'd 2,58	- 6	Date Time		100
Reporting Requirements Compiliance (and days) Reporting? (D)	Yes or (DMB, PWS,	or No	Oklahoma PWS ID #			RCI	RUSH Request (If available)	12	(Worl	(Working Days)	2
Mail Report To Smiths CA doge.com, downa@oge.com	ge.com			Mail Invoice To: Email invoice to:	and involce t	ä	Bid #				
Address: 5501 Three Forks Road Ft. Gibson, OK 74434			_	Address APVes	AFVendorInvoices@oge.com	@oge.co	FO#-	1 -	4500883927		
Thouse & (405) 533-4079 Est.	r# (405	Bask (405) 553-4063		Pinne# (553-4079)	(64		Fax#	(405) 553-4063	153-4063		
WWW.accuratelabs.com 505 South Lowry Street 800) 516-5227	et Phomes	× (405) 372-5300	6558 E. 40th Street Tules, OK 74074	Phome:	(918) 663-5400	12036 N. P.	12036 N. Pennsylvania Oklaboma Civ. OK 73120		Phone: (405) 751-3132 Fax: (405) 751-3108	751-31	22 23

Sampling Log

	Date: 8-2-2018
Sample ID	Weather Conditions and Temperature: Clear, Sunny 93°
Field Samplers	Names: Jermy Blodgett, Juson Childres, Micheal Socks
MW01	Groundwater Level (ft below TOC): 12'2" 15: 20'3" Sample Time: 9:31 Purge Volume: 4.08 gal Field pH: Comments:
MW02	Groundwater Level (ft below TOC):: 6'2" Sample Time: 10:00 Purge Volume: 7.14 gal Field pH: Comments:
MW03	Groundwater Level (ft below TOC):: 10' 75: 22'7" Sample Time: 10: 25 Purge Volume: 6.63 and Field pH: Comments:
MW04	Groundwater Level (ft below TOC):: 12'4" Sample Time: 0:5 Purge Volume: 5.1 gal Comments:
MW05	Groundwater Level (ft below TOC):: // 7" Sample Time: //:/3 Purge Volume: 5, 1 gcl Field pH: Comments:

Additional Notes:

Groundwater Velocity

Date: 8/02/2018

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μ m/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - M	W2:					
dh =	1	MW1 =	509	12.167	496.833	
dl=	1053.2	MW2 =	502	6.167	495.833	
I = dh/dl =	0.000949487					
V = KI/n =	2.29612E-07 ft	/sec = 0.069986	µm/sec			
MW1 - MV	N3:					
dh ≠	1.833	MW1 =	509	12.167	496.833	
di =	1390	MW3 =	505	10	495	
= dh/d =	0.001318705					
V = KI/n =	3.18899E-07 ft	/sec = 0.0972	µm/sec			
MW5 - MV						
dh=	-0.253	MW5 =		11.583	494.417	
	326.21	MW4 =	507	12,33	494.67	
i = dh/di =	-0.000775574					
V = KI/n =	-1.87555E-07 ft/	/sec = -0.05717	μm/sec			
MW5 - MW						
dh =	-0.583	MW5 =				
-	773.75	MW3 =	505	10	495	
= dh/d =	-0.000753473					
	4 3000000000000000000000000000000000000					
v = Ki/n =	-1.82211E-07 ft/	sec = -0.05554	µm/sec			

8-2-2019	Attachment 2 : Groundwater Flow Direction Field Notes
401-102-1030 HG: 0.02964 St/St	
DOF: 138.26° clockwise	from Tiere North
WHAUZ-MUR 4G: 0.00844 St/C+	
Dof: 162.02° clocksise	Gan True North
UI-MUZ-MUS HGC 0.00614 F4/St	
DE: 177.13° clackurie	Grow Tree North
7-MWS-MWY: 4640.00113 F/St	
Dof: 175.48° clackesise	Good Tou North
WI-MUS-MUSS HE: 0.00111 St/Ct	decinal - blancado + b4 (f) - 140 elle aparente - 1 pr - legislamante decision.
Dof: 274.28° clockwise f	rom True North
11-124-125 HG: 0,00109 SHEH	
Dof: 171,57° clockwise	
22-102-104 HG: 0,00323 CH/St	. 5000 + 00.00 to 00.
Dof: 41.54° clockerise 5	rom True North
72-AW3-AWK: HG: 0.00327 SHEH	· * **********************************
206: 38.37° clockuse G	
32-MW4-MWS HG: 0.00366 St/St	Annual An
Dof : 35:35 della isa	Tom Teas North
13-1124-11451 HG: D.00077 SHEF	
DOF: 307.98° clockesise	tang True Harth
	replacement of a final policy of the contract

- department	\$1400-40a-4008
* William and Will	- Address - Addr
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elli'skilli lillinan keele ashina	
-ri Da Ba de Gregoria de April de Carlos de Ca	An information of control of the con

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August 20, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National
Environmental
Laboratory
Accreditation
Program
Kannas CERT # R-10219

Sample Project Name: CCR Groundwater Monitering

Date Samples Received: August 0

August 02, 2018 Tir

Time: 15:05

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Ground Water

AH02106-05

Lab Log Numbers: AH02106-01

AH02106-02 AH02106-06 AH02106-03 AH02106-07

AH02108-04

Work Order: AH02106

Report #

AH02106-0820181059

EPA Lab ID#s: Stillwater OK00092

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklshoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072 Stillwater Drinking Water NELAP CERT # T105704533-14-1

Texas Certification:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes

EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MR-126652

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 9:31

Lab Log# AH02106-01

Method/Parameter	Test	Result N	lotes PQL#	Prep Info	Analysis Info
Chieride EPA 300.0	Chloride	0.632 cng/L	0.500	08/06/18 08:13 BM	08/06/18 19;22 BM
Fluoride EPA 300.0	Fluoride	0,21 mg/L	0.10	08/06/18 08:13 BM	08/06/18 19:22 BM
Sulfate EPA 300.0	Sulfate	6.90 mg/L	0.500	08/06/18 08:13 BM	08/06/18 19:22 BM
Total Disselved Solids SM2540 C	Total Dissolved Solids	425.0 mg/L	25.0	08/06/18 09:59 BM	08/07/18 13:15 BM
Antimony (Sb) EPA 200.8	Anthrony	BPQL mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:10 PD
Arsenio (As) EPA 200.8	Amenic	BPQL mg/L	0,9005	08/06/18 16:15 RW	08/07/18 19:10 PD
Barium (Ba) EPA 200.8	Barium	0.194 mg/L	0.003	08/06/18 16:15 RW	08/07/18 19:10 PD
Beryllium (Be) EPA 200.8	Beryllinn	BPQL mg/L	0.001	08/06/18 16:15 RW	08/07/18 19:10 PD
Boron (B) EPA 200.8	Boroa	0.082 mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:10 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	08/06/18 16:15 RW	08/07/18 19:10 PD
Calcium (Ca) EPA 200.7	Calcium	106 mg/L	0,50	08/06/18 16:15 RW	08/10/18 19;28 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:10 PD
Cabalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:10 PD
Lead (Pb) EPA 200.8	Lead	0,0008 mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:10 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	08/06/18 16:15 RW	08/16/18 12:17 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0,030	08/07/18 08:45 RW	08/07/18 14:45 rw
Molybdesum (Mo) EPA 200.8	Molybdenum	BPQL mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:10 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L	0.0050	08/06/18 16:15 RW	08/07/18 19:10 PD
Challium (TI) EPA 200.8	Thallism	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:10 PD

Sample: MW-2 MK-126633

Location Code:

PWSID#:

Collection	Type:	Grab

Sample Time:

8/2/18 10:00

Lab Log# AH02106-02

Method/Parameter	Test	Result Note	PQL#	Prep Info	Analysis Info
Chloride BPA 300.0	Chloride	41.0 mg/L	5.00	08/05/18 08:13 BM	08/06/18 20:31 BM
Fluoride EPA 300.0	Fluoride	0.22 mg/L	0.10	08/06/18 08:13 BM	08/06/18 20:08 RM
Sulfate EPA 300.0	Sulfate	112 mg/L	5,00	08/06/18 08:13 BM	08/06/18 20:31 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	675.0 mg/L	25.0	08/06/18 09:59 BM	08/07/18 13:15 BM
Antimony (Sh) EPA 200.8	Antimany	BPQL mg/L	0.005	08/06/18 16:L5 RW	08/07/18 19:15 PD
Arbenic (As) EPA 200.8	Arrenic	BPQL mg/L	0.0005	08/06/18 16: LS RW	08/07/18 19:15 PD
Berium (Ba) EPA 200.8	Barium	0.261 mg/L	0,005	08/06/18 16:15 RW	08/07/18 19:15 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L	0,001	08/06/18 16:15 RW	08/07/18 19:15 PD
Beron (B) EPA 200,8	Boron	0.223 mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:15 PD
Cadmium (Cd) EPA 200.8	Cadminm	BPQL mg/L	0.0010	08/06/18 16:15 RW	08/07/18 19:15 PD
Calcium (Ca) EPA 200.7	Calcium	131 mg/L	0.50	08/06/18 16:15 RW	08/10/18 19:31 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:15 PD
Cobalt (Co) EPA 280.8	Cobalt	BPQL mg/L	0.010	98/96/18 16:15 RW	08/07/18 19:15 PD
Lend (Pb) EPA 200.8	Load	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:15 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	08/06/18 16:15 RW	08/16/18 13:01 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0.050	08/07/18 08:45 RW	08/07/18 14:48 rw

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

Sample Time:

8/2/18 10:00

Lab Log# AH02106-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Lafe	Analysis Info
Molybdezum (Mo) EPA 200.8	Molybdenum	0.005 mg/L		0.005	08/06/18 16:15 RW	08/07/18 19:15 PD
Selenium (Se) EPA 200.\$	Selenium	BPQL mg/L		0.0050	08/06/18 16:15 RW	08/07/18 19:15 PD
Thellium (TI) SPA 200.8	Thalliam	BPQL mg/L		0.0005	08/06/18 16:15 RW	08/07/18 19:15 PD

Sample: MW-3 MK-126654

Location Code:

PWSID#;

Collection Type: Grab

8/2/18 10:25

Lab Log# AH02106-03

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Infe
Chloride EPA.300.0	Chloride	177 mg/L	12.5	08/06/18 08:13 BM	08/06/18 21:17 BM
Fluoride EPA 300.0	Fluoride	0.14 mg/L	0.10	08/06/18 08:13 BM	08/06/18 20:54 BM
Sulfate EPA 300.0	Sulfate	200 mg/L	12.5	08/06/18 08:13 BM	08/06/18 21:17 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solida	1199 mg/L	25,0	08/06/18 09:59 BM	08/07/18 13:15 BM
Antimony (Sb) EPA 200.8	Antimotry	BPQL mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:21 PD
Arsenis (As) EPA 200.8	Arsenic	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:21 PD
Barium (Ba) EPA 200.8	Berium	0.332 mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:21 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L	0.001	0B/06/18 16:15 RW	08/07/18 19:21 PD
Boros (B) EPA 200,8	Boron	0.071 mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:21 PD
Cadmium (Cd) EPA 200.8	Cudmium	BPQL mg/L	0.0010	08/06/18 16:15 RW	08/07/18 19:21 PD
Calcium (Ca) EPA 200.7	Calcium	225 mg/L	0.50	08/06/18 16:15 RW	08/10/18 19:34 LF
Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:21 PD
Cobalt (Co) EPA 200.8	Cobelt	RPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:21 PD
Load (Pb) EPA 200.8	Lead	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:21 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0,050	08/06/18 16:15 RW	08/16/18 13:05 LF
derenry (Hg) EPA 245.1	Meronry	BPQL ug/L	0.050	08/07/18 08:43 RW	08/07/18 14:51 rw
Aolybdemum (Mo) EPA 200.8	Molybdamm	0.006 mg/L	0.005	08/86/18 16:15 RW	08/07/18 19:21 PD
claurum (Se) EPA 290.8	Selenium	BPQL mg/L	0,0050	08/06/18 16:15 RW	08/07/18 19:21 PD
Thailium (T1) EPA 200.8	Thatlium	BPQL mg/L	0.0905	08/06/18 16:15 RW	08/07/18 19:21 PD

Sample: MW-4 MR-126655

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 10:51

Lab Log# AH02106-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chlorida EPA.300.0	Chloride	140	mg/L	12.5	08/06/18 08:13 BM	08/06/18 22:49 BM
Fluoride EPA 300.0	Fluoride	0.14	mg/L	0.10	98/96/18 08:13 BM	08/06/18 22;26 BM
Sulfate EPA 300.0	Sulfate	368	mg/L	12.5	08/06/18 08:13 BM	08/06/18 22:49 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1557	mg/L	25,0	08/06/18 09:59 BM	08/07/18 13:15 BOM
Antimony (Sb) EPA 200.8	Antimony	BPQL	mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:26 PD
Arsenic (As) EPA 200,8	Amenic	BPQL	mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:26 PD
Barium (Ba) EPA 200.8	Berium	0,262	mg/L	0.005	08/06/18 L6:15 RW	08/07/18 19:26 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL	mg/l.	0.001	08/06/18 16:15 RW	08/07/18 19:26 PD
Boron (B) EPA 200,8	Boron	0.067	mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:26 PD
Cadmium (Cd) EPA 209.8	Cadmium	BPQL	mg/L	0.0010	08/06/18 16:15 RW	08/07/18 19:26 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sampler

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

8/2/18 10:51

Lab Log# AH02106-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Calcium (Ca) EPA 200.7	Celcium	329 mg/L		0.50	08/06/18 16:15 RW	08/10/18 19:37 LF
Chromium (Cr) EPA 200.6	Chromium	BPQL mg/L		0.010	08/06/18 16:15 RW	08/07/18 19:26 PD
Cobelt (Co) EPA 200.8	Cobelt	BPQL mg/L		0.010	08/06/18 16:15 RW	08/07/18 19:26 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0.0005	02/06/18 16:15 RW	08/07/18 19:26 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	08/06/18 16:15 RW	08/16/18 13:10 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	08/07/18 08:45 RW	08/07/18 14:54 rev
Molybdenum (Me) EPA 200.8	Motybdenum	0.006 mg/L		0.005	08/06/18 16:15 RW	08/07/18 19:26 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	08/06/18 16:15 RW	08/07/18 19:26 PD
Thailium (TI) EPA 200,8	Thallium	BPQL mg/L		0.0005	08/06/18 16:15 RW	08/07/18 19:26 PD

Sample: MW-5 MK-126656

Location Code:

PWSID#:

Collection Type: Grab

Sample Time.

8/2/18 11:13

Lab Lag# AH02106-05

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Chlorido EPA 300.0	Chloride	24.0 mg/L	12.5	08/06/18 08:13 BM	08/06/18 23:35 BM
Fluoride EPA 300.0	Fluoride	0.13 mg/L	0.10	08/06/18 08:13 BM	08/06/18 23:12 BM
Sulfate EPA 300.0	Sulfate	148 mg/L	12,5	08/06/18 08:13 BM	08/06/18 23:35 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	894.0 mg/L	25.0	08/06/18 09;59 BM	08/07/18 13:15 BM
Antineony (Sb) EPA 200,8	Antimony	BPQL mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:32 PD
Amenic (As) EPA 200.8	Arsenic	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:32 PD
Barium (Ba) EPA 209.8	Barium	0.152 mg/L	9.005	08/06/18 16:15 RW	08/07/18 19:32 PD
Beryllium (Be) EPA 200.8	Beryllimt	BPQL mg/L	0,001	08/06/18 16:15 RW	08/07/18 19:32 PD
Boron (B) EPA 200,8	Barun	0.265 mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:32 PD
Cadmirum (Cd) EPA 200.8	Cadmium	BPQ1. mg/L.	0.0010	08/06/18 16:15 RW	08/07/18 19:32 PD
Calcium (Ca) EPA 200.7	Calcium	194 mg/L	0.50	08/06/18 16:15 RW	08/10/18 19:40 LF
Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:32 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	01/06/18 16:15 RW	08/07/18 19:32 PD
Lesd (Pb) EPA 200.8	Load	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:32 PD
Lithism (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	08/06/18 16:15 RW	08/16/18 13:14 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0.050	98/07/18 08:45 RW	08/07/18 15:04 rw
Molybdenum (Mo) EPA 200.8	Molybdenum	0.005 mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:32 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L	0.0050	08/06/18 16:15 RW	08/07/18 19:32 PD
Thallium (T1) EPA 200.8	Thallium.	BPQL mg/L	0.0005	98/06/18 16:15 RW	08/07/18 19:32 PD

Sample: MW-5 DUP MK-126657

Location Code:

PWSID#:

Collection Type: Grab

8/2/18 11:13

Lab Log# AH02106-06

Method/Parameter	Test	Result	Notes.	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	23.8 mg/L		12.5	08/06/18 08:13 BM	08/07/18 00:21 BM
Fluoride EPA 300.0	Fluoride	0.13 mg/L		0.10	08/06/18 08:13 BM	08/06/18 23:58 BM
Sulfate EPA 300.0	Sulfitte	147 mg/L		12,5	08/06/18 08:13 BM	08/07/18 00:21 BM
Total Dissolved Solids 8M2540 C	Total Dissolved Solids	900.0 mg/L		25.0	08/06/18 09:59 BM	08/07/18 13:15 BM

Sample Time:

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 11:13

Lab Log# AH02106-06

Method/Parameter	Teat	Result Notes	PQL#	Prep Info	Analysis Info
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	08/06/18 16:15 RW	08/07/18 19:37 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L	9.0005	08/06/18 16:15 RW	08/07/18 19:37 PD
Barium (Ba) EPA 200.8	Barino	0,151 mg/L	8.005	08/06/18 16:15 RW	08/07/18 19:37 PD
Beryllium (Be) EPA 200.8	Boylium	BPQL mg/L	0.001	08/06/18 16:15 RW	08/07/18 19:97 PD
Boron (B) EPA 200.8	Вогов	0.264 mg/L	0.025	08/06/18 16:15 RW	08/07/18 19:37 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	08/06/18 16:15 RW	08/07/18 19:37 PD
Calcium (Ca) EPA 200.7	Caloium	196 mg/L.	0,50	08/06/18 16:15 RW	08/10/18 19:42 LF
Chromiana (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:37 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	08/06/18 16:15 RW	08/07/18 19:37 PD
Lead (Pb) EPA 200.8	Load	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:37 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	08/06/18 16:15 RW	08/16/18 13:36 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ng/L	0.050	08/07/18 08:45 RW	08/07/18 15:07 rw
Molybdenum (Mo) EPA 200.8	Molybdemum	0.005 mg/L	0.005	02/06/18 16:15 RW	08/07/18 19:37 PD
iclenium (Se) EPA 206.8	Selenium	BPQL mg/l.	0.0050	08/06/18 16:15 RW	08/07/18 19:37 PD
hallium (TI) EPA 200.8	Thellium	BPQL mg/L	0.0005	08/06/18 16:15 RW	08/07/18 19:37 PD

Sample: Blank Water MK-126658

Location Code;

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 11:30

Lab Log# AH02106-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	BPQL mg/L		0.500	08/06/18 08:13 BM	08/07/18 00:44 BM
Fluoride EPA 300.0	Fluoride	BPQL mg/L		0.10	08/06/18 08:13 BM	08/07/18 00:44 BM
Sulfate EPA 300.0	Sulfate	BPQL mg/L		9.500	08/06/18 08:13 BM	08/07/18 00:44 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L		25.0	08/06/18 09:59 BM	08/07/18 13:15 BM
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0,005 .	08/06/18 16:15 RW	08/07/18 20:00 PD
Arsenic (As) EPA 200.8	Arsenio	BPQL mg/L		0.0005	08/06/18 16:15 RW	08/07/18 20:00 PD
Berium (Ba) EPA 200,8	Berium	BPQL mg/L		0.005	08/06/18 16:15 RW	08/07/18 20:00 PD
Beryllium (Be) EPA 200,8	Beryllium	BPQL mg/L		0,001	08/06/18 16:15 RW	08/07/18 20:00 PD
Boron (B) EPA 200.8	Boren	BPQL mg/L		0.025	08/06/18 16:15 RW	08/07/18 20:00 PD
Cadarium (Cd) EPA 200.8	Cadmina	BPQL mg/L		0.0010	08/06/18 16:15 RW	08/07/18 20:00 PD
Calcium (Ca) EPA 200.7	Calcium	BPQL mg/L		0.10	08/06/18 16:15 RW	08/09/18 12:39 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	08/06/18 16:15 RW	08/07/18 20:00 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	08/06/18 16:15 RW	08/07/18 20:00 PD
Lend (Pb) EPA 200,8	Lead	BPQL mg/L		9.0005	08/06/18 16:15 RW	08/07/18 20:00 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0,050	08/06/18 16:15 RW	08/16/18 13;40 LF
dereury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	08/07/18 08:45 RW	08/97/18 15:19 rw
Aolybdenum (Mo) EPA 200.8	Molyhdenum	BPQL mg/L		0.005	98/06/18 16:15 RW	08/07/18 20:00 PD
elenium (Se) EPA 200.8	Selenium	BPQL rog/L		0,0050	08/06/18 16:15 RW	08/07/18 20:00 PD
hallium (TI) EPA 200,8	Thallium	BPQL mg/L		0.0005	08/05/18 16:15 RW	08/07/18 20:00 PD

Notes and Definitions

#52	Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
MCL	Analyse concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit.
PQL	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects
BPQL	Below Practical Quantitation Limit (if applicable).

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A IZ 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flaga
18H0604-BLK1	Chloride EPA 390.0	Chloride	BPQL mg/L	0,500	
18H9604-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
18H0604-BLK1	Sulfate EPA 300.0	Sulfate	BPQL mg/L	0,500	
18H0629-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25.0	
18H0645-BLK1	Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	
18H0645-BLK1	Arsenic (As) EPA 200,8	Arsenic	BPQL mg/L	0.0005	
18H0645-BLK1	Barium (Ba) EPA 200.8	Barium	BPQL mg/L	0.005	
18H0645-BLK1	Beryllium (Be) EPA 200,8	Beryllium	BPQL mg/L	0.001	
18H0645-BLK1	Вотов (В) ЕРА 200,8	Boron	BPQL mg/L	0.025	
18H0645-BLK1	Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	
18H0647-BLK1	Calcium (Ca) EPA 200.7	Calcium	BPQL mg/L	0.10	
EH0645-BLK1	Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0,010	
8H0645-BLK1	Cobalt (Co) EPA 200,8	Cobalt	BPQL mg/L	0.010	
18H0645-BLK1	Lead (Pb) EPA 200,8	Land	BPQL mg/L	0.0005	
8H0646-BLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
8H0732-BLK1	Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0,050	
8H0645-BLK1	Molybdenum (Mo) EPA 200.8	Molybdenuro	BPQL mg/L	0,005	
8H0645-BLK1	Selenium (Sc) EPA 200,8	Selenium	BPQL mg/L	0.0050	_
8H0645-BLK1	Thallium (II) EPA 200.8	Thelium	BPQL mg/L	9,0005	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
18H0604-DUP1	Chloride EPA 300.0	Chloride	AE02106-07	BPQL.	BPQL	UDL	20	
18H0604-DUP1	Fluoride EPA 300.0	Pluoride	AH02106-07	BPQL.	BPQL	UDL	20	
18H0604-DUP1	Sulfato EPA 300.0	Sulfate	AH02105-07	BPQL	BPQL	UDL	20	

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LC8 Result	Spike Level	Units	% Rec.	Control Limits	Flags
1#H0604-BS1	Chlorida EPA 300.0	Chloride	2,96	3.000	mg/L	99	90 - 110	
18H0604-BS1	Fluoride EPA 300.0	Fluoride	1.90	2.000	mg/L	95	90 - 110	
18H0604-BS1	Sulfate EPA 300.0	Sulfate	15.3	15.00	mg/L	102	90 - 110	
18H0629-BS I	Total Disselved Solids SM2540 C	Total Dissolved Solids	982,0	1000	mg/L	98	80 - 120	
18H0645-BS1	Antimony (Sb) RPA 200.E	Antimony	0.101	0.1000	mg/L	101	85 - 115	
18H0645-B81	Artenic (As) EPA 200.8	Arsenic	0,0959	0.1000	mg/L	96	85 - 115	
18H0645-BS1	Barican (Ba) EPA.200.8	Berium	0.101	0.1000	mg/L	101	85 - 115	
18H0645-BS1	Beryllium (Be) EPA 200.8	Beryllinn	0,102	0.1000	mg/L	102	85 - 115	
18H0645-BS1	Boron (B) EPA 200.8	Boron	0.099	0.1000	mg/L	99	85 - 115	
18H0645-BS1	Cadmium (Cd) EPA 200.8	Cadmium	0.100	0.1000	mg/L	100	85 - 115	
18H0645-BS1	Chromium (Cr) EPA 200.8	Chromium	0.096	0.1000	mg/L	96	85 - 115	
18H0645-BS1	Cobalt (Co) EPA 200.8	Cobali	0.102	0.1009	mg/L	102	85 - 115	
18H0645-BS1	Lead (Pb) EPA 200,8	Lead	0.0998	0,1000	mg/L	160	85 - 115	
18H0645-BS1	Molybdanum (Mo) EPA 200.8	Molybdeann	0.103	0.1000	mg/L	103	85 - 115	
18H0645-BS1	Selenium (Se) EPA 200.8	Selenium	0.101	0.1000	mg/L	101	85 - 115	
18H0645-BS1	Thellium (TI) EPA 200.8	Thellium	0.0967	0.1000	mg/L	97	85 - 115	
18H0646-BS1	Lithium (Li) EPA 6029A	Lithium	1.03	1.000	mg/L	103	85 - 115	
18H0647-BS 1	Calcium (Ca) EPA 200.7	Calcium	0,11	0.1000	mg/L	113	85 - 115	
18H0732-BS1	Moreury (Hg) EPA 245.1	Mercury	1.57	1.667	ug/L	94	65 - 115	

Matrix Spike Data

OC lab#	Test Group	Test Name	Source Sample	Sample Result	Units	Spike Result	Spilce Level	% Rec.	Acceptance Limits	Flags
18H0604-MS1	Chloride EPA 300.0	Chloride	AH02106-07	BPQL	mg/L	3.21	3,334	96	80 - 120	
18H0604-MS1	Fluoride EPA 300.0	Fluoride	AH02106-07	BPQL	mg/L	3.05	3.334	92	80 - 120	
16H0694-MS1	Sulfate EPA 300.0	Sulfate	AH02106-07	BPQL	mg/L	2.97	3,334	89	80 - 120	
18H0645-MS1	Antimony (Sb) EPA 200.8	Antimouy	AH02106-01	BPQL.	mg/L	0.090	0.1000	90	85 - 115	
18H0645-MSI	Arsenic (As) EPA 200.8	Assenic	AH02106-01	BPQL	mg/L	0.0952	0.1090	95	85 - 115	
18H0645-MS1	Barium (Ba) EPA 200.8	Berium	AH02106-01	0.194	mg/L	0.296	0.1000	103	85 - 115	
18H0645-MS1	Beryllium (Bc) PPA 200.8	Beryllium	AH02106-01	BPQL	mg/L	0.103	0.1000	103	85 - 115	
18H0645-MS1	Buron (B) EPA 200.8	Boron	AH02106-01	0.082	mg/L	0.183	0.1000	102	85 - 115	
18H0645-MS1	Cadmium (Cd) EPA 200.8	Cadminus	AH02106-01	BPQL	mg/L	0.0962	0.1000	96	85 - 115	
18H0647-MS1	Calcium (Ca) EPA 200.7	Calcium	AH02106-02	131	mg/L	144	2,000	650	85 - 115	#52
18H0645-MSI	Chromium (Cr) EPA 200.8	Chromium	AH02106-01	BPQL	mg/L	0.093	0.1000	93	85 - 115	
18H0645-MS1	Cobalt (Co) EPA 200.8	Cobelt	AH02106-01	BPQL	mg/L	0.093	0.1000	95	85 - 115	
18H0645-MS1	Load (Pb) EPA 200,8	Load	AH02106-01	8000,0	mg/L	0.0983	0.1000	98	85 - 315	
18H0646-MS1	Lithium (Li) EPA 6020A	Lithium	AH02106-01	BPQL	mg/L	0.931	1.000	93	85 - 115	
18H0732-MS1	Mercury (Hg) EPA 245.1	Morenty	AH02106-02	BPQL	ug/L	1.70	1.667	102	85 - 115	
18H0645-M81	Molyhdenum (Mo) EPA 200.8	Molybdenum	AH02196-01	BPQL	mg/L	0.103	0.1090	103	85 - 115	
18H0645-MS1	Selenium (Se) EPA 200.8	Selenium.	AH02196-01	BPQL	mg/L	0.0976	0.1000	98	85 - 115	
18H0645-MS1	Thallium (TI) EPA 200.8	Thallium	AH02106-01	BPQL	mg/L	0.0967	0.1000	97	85 - 115	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Matrix Spike Duplicate Data

QC Lah #	Test Group	Test Name	Sample	Spiks Result	Splice Level	Units	% Rec.	Rec.	% RPD	RPD Limit	Plags
18H0645-MSD1	Antimony (8b) EPA 200,8	Antimony	BPQL	880,0	0.1000	mg/L	88	85-115	2	20	
18H0645-MSD1	Arsenic (As) EPA 200,8	Arsenic	BPQL	0.0937	0.1000	mg/L	94	85-115	2	20	
18H0645-MSD1	Barium (Be) HPA 200.8	Barium	0,194	0.291	0,1000	mg/L	97	85-115	2	20	
18H0645-MSD1	Beryllium (Bc) EPA 200,8	Beryllium	BPQL	0,100	0.1000	mg/L	100	85-115	2	20	
18H0645-M8D1	Boron (B) EPA 200,8	Boron	0.082	0.178	0.1000	mg/L	96	85-115	3	20	
18H0645-MSD1	Cadmium (Cd) EPA 200.8	Cadmium	BPQL	0.0945	0.1000	mg/L	95	85-115	2	20	
18H9647-MSD1	Calcium (Ca) EPA 200.7	Celcium	131	143	2.000	mg/L	600	85-115	0.7	20	#52
18H0645-MSD1	Chromium (Cr) EPA 200.8	Chromium	BPQL	0.090	0.1000	mg/L	90	85-115	3	20	
18H0645-MSD1	Cobelt (Co) EPA 280.8	Cobalt	BPQ1.	0.093	0,1000	mg/L	93	85-115	3	20	
18H0645-MSD1	Lead (Pb) EPA 200.8	Load	9.0008	0.0976	0,1000	mg/L	97	85-115	0.7	20	
8H0646-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQL	0,966	1.000	mg/L	97	85-115	4	20	
(8H0732-MSD1	Mercury (Hg) EPA 245.1	Mercury	BPQL	1.71	1.667	ng/L	103	85-115	0.6	20	
BH0645-MSDI	Molybdeaum (Mo) EPA 200.8	Molybdenum	BPQL	0,100	0.1000	mg/L	100	85-115	3	20	
8H0645-MSD1	Selezium (Se) EPA 200.8	Selenium	BPQL	0.0963	0,1000	mg/L	96	85-115	1	20	
8HB645-MSD1	Thaltium (TI) EPA 200.8	Thatlium	BPQL	0.0989	0.1000	mg/L	99	85-115	2	20	

×× × × × Standards Final Read Date Then -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --12036 N. Pennsylvania Phone: (405) 751-3132 Oldahoma City, OK 73120 Fax: (405) 751-3108 --- Harardous samples will be returned to citent or will be different of Jara fee ---(Working Days) त् × Mercury (EPA 2AS. 1) × C00] <4°C -- All Glass containers provided by Accurate Labs have Tellon lined lids Part Co (405) 553-4063 Date Time Date/Time 4500883927 C001 < 40C 822 bas 325 amibes EONH × × × × × Due Date Metals* (see Red 10 C00] < 4°C RUSH Request (if available) -#PM FO#-Pix × × × × Final Read LDS Sample Method Ost> (00) APVendorInvoices@oge.com Boron, Calcium, Chloride, Pluoride, RUSH × × × × × Mail invoice To Email invoice to: 3 n S. (918) 663-5400 (918) 663-6300 Meter Type (553-4079) Company: Oklahoma Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone: Fax: Secretord at Lab By: Chain of Custody Phone #: Received By: GWIDI-ES-Ground-site nater alter and to be the South South GWIDI-ELL Countries under their countries of Interested of Borm (EPA 200.8), Calcium (EPA 200.7), Chloride (EPA 300), Fluidide (EPA 300), Sulfate (EPA 300), Sulfat *Antimony, Arsente, Barium, Beryllium, Cadminm, Chromism, Collett, Lead, Lithium, Mobbdensum, Scientum, Thalliam 6558 E. 40th Street Tules, OK 74074 MK- 126653 MR- 12665Y MK-12645 Signature Oklahoma PWS ID # 90 Date Classical (405) 372-5300 (405) 372-5396 Certification by Company Official: I hardy certify that the above sampling consume during a period such that the sample is index representative of a typical operating dry disatarys for the above facility. and and O = Oake Dette/Line Eas # (405) 553-4063 MW4 MW-2 MW-3 MW-5 MW-1 Š Yes or (DMR, PWS, Phone: Ç Φ O Turbidit SmithsCA@oge.com, dowta@oge.com ů (RColl) * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK. 74074 C B 8 3 3 B WW = Worten Compliance Reporting? 000 043 100 035 5501 Three Porks Road Ft. Gibson, OK 74434 DW = Drinkingwater; On Site Inth " Row Alballedty (405) 553-4079 Accurate (TOC Rang)= 8/2/18 8/2/18 872/18 8/2/18 8/2/18 WWW.Accuratelabs.com C Raio'd to Log-in Bridge Bro O Reiburgished to Lab Br. Mail Report To Relinguished Br Samuled By: (EPA 200.8) Metric Cales 702 SI-107 9 Phone # Address

C00] <1.C

Fluoride (EPA 300)

Attachment 2: Analytical Report

C001 <4°C Fluorido (EPA 300) XX 125 Entrinta -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --12036 N. Pennsylvania Phone: (405) 751-3132 Oldahoma Civ., Olk. 73120 Fax: (405) 751-3108 -- Hazardons samples will be returned to allent or will be disposed of for a sec--(Worlding Days) -- All Glass containers provided by Accurate Labs have Teffon lined lids --Menoury (EPA 245.1) C00] <4.C × 82.6 SH решишоча (405) 553-4063 4500883927 Date/Three Cool <4°C Radium 226 and 228 (atrastimos HIMOS × × C001 < 10C Motals* (see Due Date S S Red to antent Calibration RUSH Request Piq#-% % FRX (if available) XX Firm Road Sample Method C001 <10C SOL Address: APVendorInvoices@oge.com Boron, Calcium, Chloride, Fluoride, RUSH Field high ×× Mail Invoke To Email invoice to: m CO (918) 663-5400 (918) 663-6300 Moter Type (553-4079) Company: Oklahortif Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone: Received at Lab By: IK-1 Chain of Custody Promo f. Received By DW = Driehtsgreeter; WW = Frankinger; SU = Singe; O = Ottor.

GWUDLES- Greenfester ander direct i Plance; Street GWUDL-RL= Greenfester ander direct i Plance; J. Reservebill.

Boxon (RPA 200.8), Calcium, (RPA 200.7), Calcride (RPA 300), Fluoride (RPA 300), Suithtee (RPA 300). *Antimany, Arsenie, Barbure, Beryllian, Cadmium, Chromium, Colbell, Lead, Lithium, Mohybdenum, Solentum, Thellium 6558 E. 40th Street Tules, OK 74074 MK-1246 St. MK-126657 Signature: Oklahoma PWS ID# 1500 Detecting Catification by Company Official: I heady earlify dot the above susping counted during a period each flast the maple of states representative of a hybrid open ing do, discharge for the above leading. 372-5300 Blank Water MW-5 DUP Dete/Tim Eax# (405) 553-4063 S Yes or (DMR, PWS, 505 South Lowry Street Phone: Stillwater, OK 74074 Per: Mall Report To Smiths CA (2) 02.e.com, downta@oge.com Ü (R Coll)= O * Complete Entire COC to be in Compliance* しゅり つん ĕ 8 100 Compliance Reporting 130 5501 Three Forks Road Ft. Gibson, OK 74434 Row Alballnity M: chae Phonest (405) 553-4079 Breath (TOC Ran)= 8/2/18 872/18 Accurate Bevenmental Labs o Referented to Leb By 402106 Chesterate. Refinerished By: Sampled By: (RPA 200.8) 0 0

Attachment 2 : Analytical Report



August 22, 2018

Client: OG&B - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National Environmental Laboratory Accreditatio Kansas CERT # E-10219

Sample Project Name:

CCR Groundwater Monitering

Date Samples Received:

August 02, 2018

Time: 15:05

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Water

Lab Log Numbers:

AH02116-01 AH02116-05

AH02116-02 AH02116-06 AH02116-03 AH02116-07

AH02116-04

Work Order:

Report #

AH02116

AH02116-0822181335

EPA Lab ID#'s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 601

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Texas Certification:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072 Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126652

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 9:31

Lab Log# AH02116-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL PCi/L		0.498	08/11/18 12:38	08/13/18 16:25
Redium 228 - EPA 904/9320 (Cert	Uncertainty +/-	0.418 pCi/L			08/11/18 12:38	08/13/18 16:25
Radium 226 - SM7590RaB (Cert #9517/D9923)	Radium 226	0.539 pCVL		0.297	08/11/18 12:38	08/15/18 06:25
Radium 226 - SM7500RaB (Cert 89517/D9923)	Uncertainty +/-	0.314 pCi/L			08/11/18 12:38	08/15/18 06:25

Sample: MW-2 MK-126653

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 10:00

Lab Leg# AH02116-02

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L	0,676	08/11/18 12:38	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.436 pCi/L		08/11/18 12:38	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D99231	Radium 226	0.643 pCi/L	0.553	08/11/18 12:38	08/15/18 06:45
Radium 226 - SM7500RaB (Cert #9517/D9923	Uncertainty +/-	0.454 pCi/L		08/11/18 12:38	08/15/18 06:45

Sample: MW-3 MK-126654

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 10:25

Lab Log# AH02116-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium, 228 - EPA 904/9320 (Cert 99517/D9923)	Radium 228	0.829 pCi/L		0.587	08/11/18 12:38	08/15/18 09:20
Radium, 228 - EPA 904/9320 (Cert #9517/D9923	Uncertainty +/-	0.425 pCi/L			08/11/18 12:38	08/15/18 09:20
Radium 226 - SM7500RaB (Cert 9517/D9923;	Radium 226	0.391 pCi/l.		0,297	08/11/18 12:38	08/15/18 06:45
Redium 226 - SM7500RaB (Cert 9517/D9923)	Uncertainty +/-	0.293 pCi/L			08/11/18 12:38	08/15/18 06:45

Sample: MW-4 MK-126655

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 10:51

Lab Log# AH02116-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.880 pCi/L		0.522	08/11/18 12:38	OB/15/18 09:20
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.380 pCi/L			08/11/18 12:38	08/15/18 09:20
Radium 226 - 8M7500RaB (Curt #9517/D9923)	Radium 226	0.213 pCi/L		0.200	08/11/18 12:38	08/15/18 06:45
Radium 226 - SM7500RaB (Cert	Uncartainty +/-	0.188 pCi/L			08/11/18 12:38	08/15/18 06:45

505 S, Lowry Street

Stillwater, OK 74074

405-372-5300

Sample: MW-5 MK-126656

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 11:13

Lab Log# AH02116-05

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Infe
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.887 pCi/L	0,538	08/11/18 12:38	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923	Uncertainty +/-	0.382 pCl/L		08/11/18 12:38	08/15/18 09:20
Radium 226 - SM7500RaB (Cert 69517/D9923)	Radium 226	0.708 pCi/L	0.327	08/11/18 12:38	08/15/18 06:45
Radium 226 - SM7500RaB (Cert #9517/D99231	Uncertainty +/-	0.354 pCi/L		08/11/16 12:38	08/15/18 06:45

Sample: MW-S DUP MK-126657

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 11:13

Lab Log# AH02116-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Apalysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.809 pCi/L		0,540	08/11/18 12:38	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.400 pCi/L			08/11/18 12:38	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.250	08/11/18 12:38	08/15/18 06:45
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.106 pCi/L			08/11/18 12;38	08/15/18 06:45

Sample: Blank Water MK-126658

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/2/18 11:30

Lab Log# AH02116-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radinm 228	BPQL pCi/L		0.593	08/11/18 12:38	08/15/18 09:20
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.390 pCi/L			08/11/18 12:38	08/15/18 09:20
Radium 226 - SM7500RaB (Cert #9517/D9923;	Radium 226	BPQL pCVL		0.216	08/11/18 12:38	08/15/18 06:45
Radium 226 - 8M7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.114 pCi/L			08/11/18 12:38	OB/15/18 06:45

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517

This compound was detected in the method blank above the PQL. _BK

Analyte conscontration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations. MCL

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with PQL

interferences/matrix effects

Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Blank Data

QC Lab #	Test Group	Test	Result	PQL	Flag
18H1672-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redium 228	0.444 pCi/L	0,294	_BK
18B1673-BLK1	Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L	0.045	

-- All samples are scheduled to be disposed of is 4 weeks of receipt at Accurase. --12036 N. Pennsylvania Phone: (405) 751-3132 Oldahema Chy, OK 73120 Fex: (405) 751-3108 -- Hazardons samples will be returned to client or will be disposed of for a lee --(Working Days) -- All Giass containers provided by Accurate Labs have Tellan lined lids ... C001 <4°C 3-6-120-C Dan Land × × × × (405) 553-4063 DateCline 4500883927 C001 ctoC Radium 226 and 228 Darbs EONH \bowtie Due Date B.E. Best 18 Field Instrumpent Calibration RUSH Request (Havallable) Biq # \$ Por fr × First Read. C001 < 100 LD Address: AFVendorInvoices@oge.com RUSH Chloride, Pluoride, C001 <4°C Standarde Press t Mallavoice To Enail invoice to: 3 Phone: (918) 663-5400 Fax: (918) 663-6300 Meter Type (553-4079) N This Results Company Oldaholma Gas & Electric CCR Groundwater Monitoring OG&E Muskogee Power Plant Received at Lab Dr. Chain of Custody Phone #: Received Br GWUBERS - Generales under Street of Franklanen GWUBERL - Goundmar under Street of Franklane | Representation | 1888 | Botton (RPA 200.8), Calcium (RPA 200.7), Calcium (RPA 300), Fluxido (RPA 300), Fluxido (RPA 300), Sulfate (RPA 300), Sulfat *Antinomy, Aramic, Barium, Barylilum, Cadmitan, Caromium, Colbult, Lead, Lithiam, Mohfedenum, Selentum, Thallium 6558 E. 40th Street Talan, OK 74074 MK- 126653 MK- 126655 MK- 124652 MK- PLEGSY MK- (26652 Memerican 1503 PWS ID# Oklahoma Date Times of F (405) 372-5300 405) 372-5396 Certification by Commun Official: I henty certity that the above permiting commed during a period seed, that the empirical histor representative of a replical operation during the discussion of the discussion o 0=06 Distribute Ext. (405) 553-4063 MW-2 MW4 MW-1 MW-3 MW-5 Pes or No (DMR, PWS, (c) = (c) Project Name 505 South Lowry Street Phone: Stillwater, OK 74074 Par: O 0 O Ф Purhidic Mail Report to Smiths CA a over com, down ta Coge. com Chent Name O (K.Coll)-* Complete Entire COC to be in Compliance* 2 8 B ₩ G 8 8 WW = Months 2 Contspillance Reporting 1000 1035 507 5501 Three Forks Road Ft. Gibson, OK 74434 DW - Drinkingwater; char Raw Alballatty Euself: (405) 553-4079 (TOC Raw)= Sample Talen 8/2/18 8/2/18 8/2/18 8/2/18 8/2/18 Accurate Repording Requirements (standard 10.15 worlding days). Www.accuratelaba.com (800) 516-5227 D Relation Lore in Fridon By: C Refingulated to Lab Ib: Work Orde Relinguished By Accurate One Site Info Sempled By: 0 (BPA 200.8) 10% 8 b Arter SS

* Complete Entire COC to be in Compliance*

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Accurate			_	Chain of Custody	f Cust	ody		20012	200>1	403 -1.0C	Doto:	-Deta-	Jat≥
		Cilent Name-	- Junio		OG&E Muskogee Power Plant	Power Plant		(000)	(C00)		Coal	log [®]	100
)		Project N	-		CCR Groundwater Monitoring	Monitoring		5 9.3			1		
Work Order Work Order Sample Taken	Trace Semple Teten	K W da	16.00		mple Location	Polici Results (pH, Temp, Chlorine) (note antiyate & units)		Bornin Calcium, Caloride, Flacorice	airliu?	COMMISSION (Sec	Redium 226 and 228 coombined	(I-Cer Van Amaron	1004 A93) abinou 1
200	1113		0	MW-5 DUP	MK-126657			×	×	×	×	><	1×
8/2/18	1130	₹	0	Blank Water	MK-1246.		m	×	×	×	×	×	×
On-Stic Info Row Albertrates		Ž	Turbidity			, the							
Martin Culter DW = Duta Hamania	W/W	ment (E.Cott	Coll			Meter Type	Standar	Z.	Final Read.	Date	Date , Time	Inflish	-8
Confidition . Beren (BPA 200.8), Calabam (BPA 200.7), Chloride (BPA 300), Famelde (BPA 300), Suffite (BPA 30	00.8), Cristian (EP. syllian, Cadmium,	A 200.7), Cl Chromium,	Colbair,	Bocon (BPA 200.8), Calabam (BPA 200.7), Calaside (BPA 300), Flancide (BPA 300), Suffixe (BPA 300), Suffixe (BPA 300), Suffixe (BPA 300), Saciona, Secondar, Calaba, Lend, Lifakim, Molydonum, Selentum, Thallium, Thallium, Secondary, Selentum, Selen	Menum, Schnium, T	2	All Class containers provided by Accurate Labs have Teflon Bued lidsAll samples are scheduled to be disposed of its 4 weeks of receipt at Accurate Essendous samples will be reterned to olient or will be disposed of for a see	provided i ed to be dis I be retorn	by Accurate sposed of in ed to olient	Labs have 4 weeks of 2 well be d	Telon ihued receipt at A	inds courate,	
Certification by Comment Officials: I break certify that the above sampling commet dumps a period catch that the cample of inter-speciments of a spical operating day discharge for the shows desire. Sampled BC	Communy Officials I benefit centify that the above som mapping into symmeometrie of a system special speciality day dis [M.S.c. New]	operating day	discharge on		Company: Oklaho	Company: Okla horifit Gas & Electric	1	Sample Method	(ethod:	G G	Date Chine	8	Sa
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o Refugnished to Leb Br	Mer			Detections	15.55	Region of Lab Bc.	Fret.	Ž.	Regid (VIS-	Onte Ilms	3	The
Compiler Compiler Yes Compiler Yes Control	Reporting?	(DMR.	Yes or	r No	Oklahoma PWS ID #			- Cift	RUSH Request (if available)		(Work)	(Working Days)	
Address 5501 Three Forts Road Ft. Glbson, OK 74434	ia Road K 74434	1380 m				Meil hyddoe Ty: Email inydfee to: Astres: APVendorInydices@	oly: Email invoice to: APVendorInvoices@oge.com	ge com	#P# %	4500883927	83927		
Email: (405) 553-4079		Fix &:	(50)	Eex. (405) 553-4063	1	Parant: (553-4079)			Pax #	(405) 553-4063	13-4063		T
TYT accuratelabs.com (800) 516-5227	305 South Lowry Street Stillwater, OK 74074	1 1	Phone: Pax:	(405) 372-5300	6558 E. 40th Street Tules, OK 74074	ect Phone: (918) 663-5400 74 Fax: (918) 663-5300	-	36 N. Per	12036 N. Pennsylvania	Phor	Phone (405) 751-3132	/51-313	OI.

Sampling Log

	Date: 8-23-18	
Sample ID	Weather Conditions and Temperature:	Cloudy 740
Field Samplers	Names: Michael Jordan, Jose	/
MW01	Groundwater Level (ft below TOC): 12'	TD: 20'3"
MWU	Sample Time: 9:40 Purge Volume: 4.4gal Fig.	eld pH: 6.97 (9:53)
MW02	Groundwater Level (ft below TOC):: 5'9" Sample Time: /255	15: 20'1"
	Purge Volume: 7.14 gal Fie	ld pH: 6.91 (10:13)
MW03	Groundwater Level (ft below TOC):: 9 7 " Sample Time: 1025	_T5: 22'8"
		ld pH: 6,98 (10:34)
MW04	Groundwater Level (ft below TOC):: /2'/' Sample Time: //2/2	TD: 82'4"
WI WO	Purge Volume: 5.19al Fiel Comments:	ld pH: 6.69 (11:09)
	Groundwater Level (ft below TOC):: //5// Sample Time: //:2/	TO: 21'7"
MW05		d pH: 6,78 (11:29)

Additional Notes:

Groundwater Velocity

Date: 8/23/2018

V=KI/n

V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 µm/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

```
MW1 - MW2:
 dh =
                     0.75
                                      MW1 =
                                                   509
                                                               12
                                                                        497
 dl =
                   1053.2
                                      MW2 ≈
                                                   502
                                                             5.75
                                                                     496.25
 i = dh/di =
            0.000712115
             1.72209E-07 ft/sec =
 V = KI/n =
                                    0.052489 µm/sec
 MW1 - MW3:
      dh =
                   1.583
                                      MW1 =
                                                   509
                                                              12
                                                                       497
      dl =
                    1390
                                      MW3 =
                                                   505
                                                           9.583
                                                                   495.417
i = dh/di =
            0.001138849
 V = KI/n =
             2.75405E-07 ft/sec =
                                    0.083943 µm/sec
 MW5 - MW4:
      dh=
                  -0.334
                                     MW5 =
                                                   506
                                                          11.417
                                                                   494.583
      dl =
                  326.21
                                     MW4 =
                                                   507
                                                          12.083
                                                                   494.917
I = dh/dl =
             -0.00102388
V = KI/n = -2.47603E-07 \text{ ft/sec} =
                                    -0.07547 µm/sec
MW5 - MW3:
     dh =
                  -0.834
                                     MW5 ≈
                                                  506
                                                          11.417
                                                                   494.583
      dl =
                  773.75
                                     MW3 =
                                                  505
                                                           9.583
                                                                  495.417
I = dh/dI = -0.001077868
```

-0.07945 µm/sec



September 06, 2018

Client: OG&B - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



National
Ravironmental
Laboratory
Assreditation
Program
Kannas CERT # E-10219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: August 23, 2018 Time: 15:08 sample temp upon arrival at lab = 1°C - On loe

Matrix: Monitoring Well

Lab Log Numbers: AH23130-01 AH23130-02 AH23130-03 AH23130-04

AH23130-05 AH23130-06 AH23130-07
Work Order: AH23130

Report # AH23130-0906180837

EPA Lab ID#'s: Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference: 40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes

EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

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performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126678

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 9:40

Lab Log# AH23130-01

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	0.546 mg/L	0,500	08/24/18 07:45 BM	08/24/18 22:17 BM
Pluoride EPA 300.0	Fluoride	0.20 mg/L	0.10	08/24/18 07:45 BM	08/24/18 22:17 BM
Sulfate EPA 300.0	Sulfate	6.82 mg/L	0.500	08/24/18 07:45 BM	08/24/18 22:17 BM
Total Dissolved Solids SM2540 C	Total Disselved Solids	400.0 mg/L	25,0	08/24/18 10:30 BM	08/27/18 10:00 BM
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:13 PD
Amenic (As) EPA 200.8	Arsenic	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:L3 PD
Barium (Ba) EPA 200.8	Burism	0.177 mg/L	0,005	08/24/18 16:30 PD	08/27/18 17:13 PD
Beryllium (Bc) EPA 200.8	Beryllian	BPQL mg/L	100.0	08/24/18 16:30 PD	98/27/18 17:13 FD
Boron (B) EPA 200.8	Boron	0.082 mg/L	0.025	08/24/18 16:30 PD	08/28/18 14:03 PD
Cadmium (Cd) HPA 200.8	Cadmium	BPQL mg/L	0.0010	08/24/18 16:30 PD	08/27/18 17:13 PD
Calcium (Ca) EPA 200,7	Calcium	110 mg/L	0.50	08/24/18 16:30 PD	09/04/18 16:12 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	08/24/18 16:30 PD	08/27/18 17:13 PD
Cobelt (Co) EPA 200.8	Cobelt	BPQL mg/L	0.016	08/24/18 16:30 PD	08/27/18 17:L3 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:13 PD
Lithium (Li) EPA 6020A	Lithium	HPQL mg/L	0,050	08/24/18 16:30 PD	08/28/18 (0;21 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0.050	08/29/18 08:50 RW	08/29/18 14:58 rw
folybdemm (Mo) EPA 200.2	Molybdonum	BPQL mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:13 PD
elenium (So) HPA 200.8	Selezion	BPQL mg/L	0.0050	08/24/18 16;30 PD	08/27/18 17:13 PD
hallium (TI) HPA 200.8	Thallium	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:13 PD

Sample: MW-2 MK-126679

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:05

Lab Log# AH23130-02

Method/Parameter	Test	Result No	otes PQL#	Prep Info	Analysis Info
Chlorido EPA 300.0	Chlorido	36.2 mg/L	5.00	08/24/18 07:45 BM	08/24/18 23:26 BM
Fluoride EPA 300.0	Fluoride	0,22 mg/L	0.10	08/24/18 07:45 BM	08/24/18 23:03 BM
Sulfate EPA 300.0	Sulfate	105 mg/L	5.00	08/24/18 07:45 BM	08/24/18 23:26 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	631.0 mg/L	25,0	08/24/18 10:30 BM	08/27/18 10:00 BM
Antimony (Sb) EPA 200.8	Antimony	HPQL mg/L	0,005	08/24/18 16;30 PD	08/27/18 17:18 PD
Arsonic (As) EPA 200.8	Arsenic	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:18 PD
Barium (Ba) EPA 200.8	Barinos	0,255 mg/L	0.003	08/24/18 16:30 PD	08/27/18 17:18 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L	0.061	08/24/18 16:30 PD	08/27/18 17:18 PD
Boton (B) EPA 200,8	Boron	0.221 mg/L	0.025	08/24/18 16:30 PD	08/28/18 14:09 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.9010	08/24/18 16:30 PD	08/27/18 17:18 PD
Calcium (Ca) EPA 200.7	Calcium	136 mg/L	0.50	08/24/18 16:30 PD	09/04/18 16:16 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0,010	08/24/18 16:30 PD	08/27/18 17:18 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	08/24/18 16:30 PD	08/27/18 17:18 PD
Lend (Pb) EPA 200.8	Lead	BPQL mg/L	0,0005	08/24/18 16:30 PD	08/27/18 17:18 PD
Lithium (Li) EPA 6020A	Lithinn	BPQL mg/L	0.050	08/24/18 16:30 PD	08/28/18 10:25 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ng/L	0.050	08/29/18 08:50 RW	08/29/18 15:01 rw

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:05

Lab Log# AHZ3130-02

Method/Parameter	Test Result		Notes	PQL#	Prep Info	Analysis Info
Molyhdamun (Mo) EPA 200.8	Molybdemm	0.005 mg/L		0.005	08/24/18 16:30 PD	08/27/18 17:18 PD
Selenium (Se) EPA 200.8	Sclenium	BPQL mg/L		0.0050	08/24/18 16:30 PD	08/27/18 17:18 PD
Thallium (Tl) EPA 200.8	Thallium	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/27/18 17:18 PD

Sample: MW-3 MK-126689

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:25

Lab Leg# AH23130-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride BPA 300.0	Chloride	178 mg/L		12.5	08/24/18 07:45 BM	08/25/18 00:12 BM
Fluoride HPA 300,0	Fluoride	0.14 mg/L		0.10	98/24/18 07:45 BM	08/24/18 23:49 BM
Sulface EPA 300.0	Sulfate	198 mg/L		12.5	08/24/15 07:45 BM	08/25/18 00:12 BM
Total Dissolved Solida SM2540 C	Total Dissolved Solids	1156 mg/L		25.0	08/24/18 10:30 BM	08/27/18 10:00 BM
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	08/24/18 16:30 PD	08/27/18 17:23 PD
Arsenic (As) EPA 200,8	Amenic	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/28/18 14:14 PD
Barium (Bu) EPA 200.8	Becium	0.327 mg/L		0.005	08/24/18 16:30 PD	08/27/18 17:23 PD
Beryllium (Be) EPA 200,8	Berythian	BPQL mg/L		100.0	08/24/18 16:30 PD	08/27/18 17:23 PD
Boron (B) EPA 200.8	Boron	0.072 mg/L		0.025	08/24/18 16:30 PD	08/28/18 14:14 PD
Cedmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	92/24/18 16:30 PD	08/27/18 17:23 PD
Celeium (Ce) EPA 200.7	Calchen	233 mg/L		0.50	08/24/18 16:30 PD	09/04/18 16:19 LF
Chromium (Cr) EPA 200.8	Chronium	BPQL mg/L		0.010	08/24/18 16:30 PD	08/27/18 17:23 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0,010	08/24/18 16:30 PD	08/27/18 17:23 PD
Lond (Pb) EPA 200.8	Lead	BPQL mg/L		0.0905	08/24/18 16:30 PD	08/27/18 17:23 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	08/24/18 16:30 PD	08/28/18 10:30 LF
Morenty (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	08/29/18 08:50 RW	08/29/18 15:04 rw
Molyhdenum (Mo) EPA 200.8	Molybdomm	0,005 ag/L		0.005	08/24/18 16:30 PD	08/27/18 [7:23 PD
ielenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	98/24/18 16:30 PD	08/27/18 17:23 PD
thallium (T1) EPA 200.8	Theilium	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/27/18 17:23 PD

Sample: MW-4 MK-126681

Location Code:

PWSID#:

Collection Type: Grab

8/23/18 11:02

Lab Log# AH23130-04

Method/Parameter	Test	Result	Notes PQL#	Prep Info	Analysis Info
Chloride EPA 300,0	Chloride	131 mg/L	12.5	08/24/18 07:45 BM	08/25/18 02:07 BM
Fluoride EPA 300.0	Fluoride	0.16 mg/L	0.10	08/24/18 07:45 BM	08/25/18 00:35 BM
Sulfate EPA 300.0	Sulfate	351 mg/L	12.5	08/24/18 07:45 BM	08/25/18 02:07 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1460 mg/L	25.0	08/24/18 10:30 BM	08/27/18 10:00 BM
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:29 PD
Amenic (As) EPA 200.8	Argenic	BPQL mg/L	0,0003	08/24/18 16:30 PD	08/28/18 14:19 PD
Barium (Ba) EPA 200,8	Berium	0.249 mg/L	0,005	08/24/18 16:30 PD	08/27/18 17:29 PD
Beryllium (Be) EPA 200.8	Bezyilium	BPQL mg/L	0.091	08/24/18 16:30 PD	08/27/18 17:29 PD
Boron (B) EPA 200.6	Boron	0.081 mg/L	0.025	08/24/18 16:30 PD	08/28/18 14:19 PD
Cadmium (Cd) EPA 200.8	Cedmium	BPQL mg/L	0.0010	08/24/18 16:30 PD	08/27/18 17:29 PD

Sample Time:

505 S. Lawry Street

Stillwater, OK 74074

405-372-5300

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:40

Lab Log# AH23130-06

Method/Parameter	Test	Result Notes	PQL#	Prep Infe	Analysis Info
Antimony (Sb) EPA 200.8	Antimony	BPQ1. mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:39 PD
Arsenic (As) EPA 200.8	Arzenic	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:39 PD
Bariwa (Ba) RFA 200.8	Berium	0.187 mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:39 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L	0.001	08/24/18 16:30 PD	08/27/18 17:39 PD
Beron (B) EPA 200.8	Вогоп	0.082 mg/L	0.025	08/24/18 16:30 PD	08/25/18 14:31 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	08/24/18 16:30 PD	08/27/18 17:39 PD
Calcium (Ca) EPA 200.7	Calcium	110 mg/l.	0.50	08/24/18 16:30 PD	09/04/18 16:30 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	08/24/18 16:30 PD	08/27/18 17:39 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	08/24/18 16:30 PD	08/27/18 17:39 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L	0.0005	08/24/18 16:30 PD	08/27/18 17:39 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	08/24/18 16:30 PD	08/28/18 10:51 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L	0.050	08/29/18 08:30 RW	08/29/18 15:13 rw
Molybdeaum (Mo) EPA.200.8	Molybdenum	BPQL mg/L	0.005	08/24/18 16:30 PD	08/27/18 17:39 PD
Selcaiom (Sc) EPA 200.8	Selenium	BPQL mg/L	0,0050	08/24/18 16:30 PD	08/27/18 17:39 PD
Thallium (TI) EPA 200.8	Thallium	BPQL mg/L	0.0005	98/24/18 16:30 PD	08/27/18 17:39 PD

Sample: MRlank Water MK-126684

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 11:35

Lab Log# AH23130-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	BPQL mg/L		0,500	08/24/18 07:45 BM	08/25/18 04:03 BM
Fluoride EPA 300.0	Fluoride	BPQL mg/L		0.10	08/24/18 07:45 BM	08/25/18 04:03 BM
Sulfate EPA 300.0	Sulfate	BPQL mg/L		0.500	08/24/18 07:45 BM	08/25/18 04:03 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L		25.0	08/24/18 10:30 BM	08/27/18 10:00 BM
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	08/24/18 16:30 PD	08/27/18 17:45 PD
Arsenic (As) EPA 200,8	Arrenic	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/27/18 17:45 PD
Barium (Ba) EPA 200.8	Barium	BPQL mg/L		0.005	08/24/18 16:30 PD	08/27/18 17:45 PD
Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L		0.001	08/24/18 16:30 PD	08/27/18 17:45 PD
Heren (B) EPA 200,8	Boron	BPQL mg/L		D.025	08/24/18 16:30 PD	08/28/18 14:52 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	08/24/18 16:30 PD	08/27/18 17:45 PD
Calcium (Ca) EPA 200.7	Caloium	BPQL mg/L		0.10	08/24/18 16:30 PD	09/04/18 15:36 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	08/24/18 16:30 PD	08/27/18 17:45 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	08/24/18 16:30 PD	08/27/18 17:45 PD
Lead (Pb) EPA 280.8	Lord	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/27/18 17:45 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	08/24/18 16:30 PD	08/28/18 10:56 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	08/29/18 08:50 RW	08/29/18 15:16 rw
Molybdemun (Mo) EPA 200.8	Molybdenum	BPQL mg/L		0.005	08/24/L8 16:30 PD	08/27/18 17:45 PD
Selenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	08/24/18 16:30 PD	08/27/18 17:45 PD
Thallium (TI) EPA 200.8	Thallinn	BPQL mg/L		0.0005	08/24/18 16:30 PD	08/27/18 17:45 PD

505 S. Lowry Street

Stillwater, OK 74074
 405-372-5300
 Fax: 405-372-5396

Notes and Definitions

#52	Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Comminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit
PQL	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

Below Practical Quantitation Limit (if applicable).

BPQL

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18H2406-BLK1	Chloride EPA 300.0	Chloride	BPQL mg/L	0,500	
18H2406-BLKI	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0.10	
18H2406-BLK1	Sulfate EPA 300,0	Sulfate	BPQL mg/L	0,500	
18H2440-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25.0	
18H2468-BLK1	Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0,005	
18H2468-BLK1	Arsenic (As) EPA 200.8	Amenic	BPQL mg/L	0.0005	
18H2468-BLK1	Barkum (Ba) EPA 200,8	Barium	BPQL mg/L	0.005	
18H2468-BLK1	Beryllium (Be) EPA 200.8	Beryllium	BPQL mg/L	0,001	
8H2468-BLK1	Boron (B) EPA 200,8	Beren	BPQL mg/L	0.025	
18H2468-BLK1	Cadmium (Cd) EPA 200,8	Cadmium	BPQL mg/L	0.0010	
18H2470-BLK1	Calcium (Ca) EPA 200,7	Calcium	BPQL mg/L	0.10	
18H2468-BLK1	Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0,010	
81-22468-BLK.I	Cobalt (Co) EPA 200.8	Cobelt	BPQL mg/L	0,010	
8H2468-BLK1	Lead (Pb) EPA 200.8	Lead	BPQL mg/L	0.0005	
8H2473-BLK1	Lithium (Li) EPA 6020A	Lithium	RPQL mg/L	0.050	
8H2929-BLK1	Mercury (Hg) EPA 245.1	Mercury	RPQL og/L	0.050	
8H2468-BLK1	Molybdensm (Mo) EPA 200.8	Molybdamm	BPQL mg/L	0,005	
8H2468-BLK1	Selenium (Se) EPA 200.8	Selenium	BPQL mg/L	0.0050	
8H2468-BLK1	Thailium (TI) EPA 200.8	Thallium	BPQL nig/L	0.0005	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
18H2406-DUP1	Chloride EPA 300.0	Chiloride	AH23130-07	BPQL	BPQL	UDL	20	
18H2406-DUP1	Fluoride EPA 300.0	Fluorida	AH23130-07	BPQL	BPQL	UDL	20	
18H2406-DUP1	Sulfate EPA 300.0	Sulfate	AH23130-07	BPQL	BPQL	UDL	20	

Laboratory Control Sample Data

Lab QC#	Test Group	Tost Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Maga
18H2406-BS1	Chlorido EPA 300.0	Chloride	2.89	3.000	mg/L	96	90 - 110	
18H2406-BS1	Phonids EPA 300.0	Fluoride	1,81	2,000	mg/L	90	90 - 120	
18H2406-BS1	Suifate EPA 300.0	Sulfate.	14.5	15.00	mg/L	97	90 - 110	
18H2440-B51	Total Dissolved Solids SM2540 C	Total Dissolved Solids	997.0	1000	mg/L	100	89 - 120	-
[8H2468-BS]	Antimony (Sb) EPA 200.8	Antimony	0.094	0,1990	mg/L	94	85 - 115	
18H2468-BS1	Arsenic (As) EPA 200.8	Arsenic	0,102	0.1000	mg/L	102	85 - 115	
18HZ468-B\$1	Barium (Ba) EPA 200,8	Berium	0.092	0.1000	mg/L	92	85 - 115	
18H2468-BS1	Beryllium (Be) EPA 200.8	Beryllium	0.095	0.1000	mg/L	95	85 - 115	
18H2468-BS1	Boron (B) EPA 200,8	Beron	0.095	0.1000	mg/L	95	85 - 113	
18H2468-BS1	Cedmium (Cd) EPA 200,8	Cadmium	0.0919	0,1000	mg/L	92	85 - 115	
I8H2468-BS1	Chromium (Cr) EPA 200.8	Chromium	0.100	0.1000	mg/L	100	85 - 115	
18H2468-BS I	Cobelt (Co) EPA 209.8	Cobalt	0.096	0.1000	mg/L	96	85 - 115	
BH2468-BS1	Lead (Pb) EPA 200,8	Lead	0.0925	0.1000	mg/L	92	85 - 115	
8H2468-BS1	Mulybdenum (Mo) EPA 200,8	Molybdeman	0,094	0,1000	mg/L	94	85 - 115	
8H2468-BS1	Selenjum (Se) EPA 200,8	Selenium	0.105	0.1900	mg/L	105	85 - 115	
8H2468-B51	Thailium (TI) EPA 200.8	Thallium	0.1037	0.1000	mg/L	104	85 - 115	
8H2470-B\$1	Caloium (Ca) EPA 200.7	Calcium	2.00	2.000	mg/L	100	85 - 115	
8H2473-BS1	Lifhinm (Li) EPA 6020A	Lithium	1.10	1.000	mg/L	110	85 - 115	
8H2929-BS1	Mercury (Hg) EPA 245.1	Mercury	1.92	1.667	ng/L	115	85 - 115	

Matrix Spike Data

QC Lab #	Test Group	Test Name	Source Sample	Sample Result	Units	Splke Result	Spike Level	% Rec.	Acceptance Limits	Flags
18H2406-MS1	Chloride EPA 300.0	Chloride	AH23130-07	BPQL	mg/L	3.26	3,334	98	80 - 120	
18H2406-M81	Fluoride EPA 300.0	Fluoride	AH23130-07	BPQL	mg/L	3.08	3.334	92	80 - 120	
18H2406-M\$1	Sulfate EPA 300.0	Sulfato	AH23130-07	BPQL	mg/L	3.01	3.334	90	80 - 120	
18112470-MS1	Calcium (Ca) EPA 200.7	Calcium	AH23130-07	0,03	mg/L	2,00	2.000	98	85 - 115	-
1BH2473-MS1	Lithium (Li) EPA 6020A	Lithium	AH23130-01	BPQL.	mg/L	1.10	1.000	110	85 - 115	
18H2929-MS1	Mercury (Hg) EPA 245.1	Meacury	AH23130-03	BPQL	ag/L	1.39	1,667	83	85 - 115	#52

Matrix Spike Duplicate Data

QC Lab#	Test Group	Test Name	Sample	Spike Result	Spike Level	Units	% Rec.	Rec.	% RPD	RPD	Flare
8H2470-MSD1	Calcium (Ca) EPA 200.7	Calcium	0.03	2.05	2.000	mg/L	101	85-115	2	20	
8H2473-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQL	1.14	1.060	mg/L	114	85-115	3	20	
8H2929-MSD1	Mercury (Hg) EPA 245,1	Mercury	BPQL	1.41	1.667	ug/L	85	85-115	1	20	

B Inditals C001 <4°C Flaoride (EPA 300) × XX × × -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --12036 N. Pennsylvania Phone: (405) 751-3132 Oklahoma Civ.; OK. 73120 Fsz: (405) 751-3108 -- Hozardous sommer will be returned to cheen or will be disposed of for a sec --(Working Days) Mercury (BPA 245.1) M C001<4°C -- All Glass containers provided by Accurate Labs have Refron lined lids Phyla historickent Californion 2. の心にの Description of the second (405) 553-4063 Date , Time 4500883927 Date/Time C001 c4°C Redium 226 and 228 (etmannimos EONH × × × 対 × Due Date C007 < 4.C Metals* (see an Re 4 AUSH Request (if available) So So Bid#-PO#-DE A × × × × × Front Rend. Sample Method SCLL C001 <4.C APVendorInvoices@oge.com Chloride, Phoride, RUSH XX × × × July 1007 Standards 1 Mail invoice To: Email invoice to: 3 m m m (918) 663-5400 Motor Type (553-4079) Company Oldahoper Cas & Fleetric OG&E Muskogee Power Plant CCR Groundwater Monttoring Phone: Fax: Received at Lab By-Chain of Custody Prone # E.C. Searce GWODE-88-Gronnbate under dress inflance of Plante, Steam GWODE-88-Groundbate under diese in desentablish Colorish (SPA 200,), Flucklich (SPA 300), Flucklich (SPA 300), Sulfate (SPA 300), Sulfate (SPA 300), Spales (SP Received Br. September 1. Porton (1977 Actions (1977 Chronis (1974 300), Function (1974 300), Sulface (1974 300), Su 6558 E. 40th Street Tules, OK 74074 MK- 126678 MK-1266 20 MK-126682 MK- 1226 79 MK-1266 8 1 Oklahoma PWS ID# 3-8 (405) 372-5300 (405) 372-5396 Certification by Campany Official: I hereby certify that the chove sampling occurred caring a period such that he samples is higher expressibilities of a hydrel operating the direction above facility. Parie Time WW = Mathematic; SL = Shifter; O = Other Detro Timo Par # (405) 553-4063 MW-2 MW-3 MW-5 MW4 MW-1 è COMR, PWS, Phone: Fax; Mail Report To SmithsCA(2) oge.com, downa@oge.com Ç O O Ö のの意 * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK 74074 BW 8 ₹ 8 8 Jor cho WW = Wests Compliance Reporting 2940 109 50 4 200 5501 Three Forks Road Pt. Glbson, OK 74434 DW = Drinklegwater; GWUDI-BB- Grandwaters Raw Alkalinity Micha (405) 553-4079 8/23/18 8/23/18 8/23/18 8/23/18 8/23/18 Accourate Accourate WWW.accaratelabs.com (800) 516.5227 o Religensished to Lab By: o Rely's to Log-In Pridge By: OneSite land + R. M. Lats Relinguished By Sampled By: Hants Calo 0~ 30 03 Phone #: 5

Attachment 2: Analytical Report

Cool <4°C Fhoride (EPA 300) XX - - All samples are scheduled to be disposed of in 4 weeks of receipt as Accurate. - -Phone: (405) 751-3132 Rax: (405) 751-3108 fistandom sampler will be returned to client or will be disposed of for a fee --(Working Days) C00] <100 Mercury (HPA 245.1) M × -- All Glass containers provided by Accornite Laby have Teffon lined lide Des 723-78 palliquees (405) 553-4063 Dato , Thine Date Time 4500883927 J. 100j Radium 226 and 228 Le Pieth Distrument Californich ... **EONH** (EQUIPMENTS) × Þ¢ Cool <4°C Metals* (see 12036 N. Pennsylvania I Due Date d (a) RUSH Request Bid # PO#-(if available) × Fax # Final Read Sectoric Method C001 <4°C SCL Sec. o APVendorInvoices@ege.com Chionide, Pluoride, RUSH × 対 Boron, Calcium, Ooj - (00) Standards Mail broke To: Email invoice to: (918) 663-5400 Motor Type (553-4079) Company Oklahoma Gas & Electric OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone: Received at Lab Dw. Fax Chain of Custody Phone 2: WOD-FS-Greenhair meter dres in have of Paris, States GWUS-EL. Constitute and other levence at learned and Boron (BPA 200.3), Calchan (BPA 200.7), Chloride (BPA 300), Flucide (BPA 300), Suites (BPA 300), Received By "Andinony, Arrente, Bartom, Beryllium, Cadmium, Chronium, Colbelt, Lend, Lithium, Mohbdonum, Selentum, Thellium 6558 E. 40^A Street Tulsa, OK 74074 MK-126 684 The state of the s MAX-174603 Signaturo: 1500 PWS ID# Oklahoma 3-18 372-5300 O = Other Cattification by Company Official: Heroby carity that the above samping occurred during a partial such that the campels interactions of a typical operating the discharge for the above facility. Blank Water MW-1 DUP DateTime Date/Time Eax#: (405) 553-4063 (405) S.L. m Shadge ; 07 (DAGR, PWS, Phone: Fax: 8 Turbidity SmithsCA(@one.com, dowta@oge.com Chigan Ö O (R Colin * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK. 74074 WW = Fatersaler: Dr 24 GW GW Reporting? 040 135 Ft. Gibson, OK 74434 5501 Three Ports Road D'W = Drinkingwater; GWUDI-FS- Grandwise Serupted By: Phichail On-Site Info ... Row Alknihmby (405) 553-4079 (TOC Raw)= 8/23/18 8/23/18 Accurate Labor www.sccaratelabs.com (800) 516-5227 D Related to Los-in Printer By C Religenships to Lab Ber V Mail Report To Relinomished By Metrols Codes (EPA 200.8) Phone #:

Attachment 2 : Analytical Report



September 27, 2018

Client: OG&E - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



National Environmental Laboratory Accreditation Program Kansas CERT # E-10219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: August 23, 2018 Time: 15:08 sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Ground Water

Lab Log Numbers: AH23132-01

AH23132-01 AH23132-02 AH23132-05 AH23132-06

AH23132-02 AH23132-03 AH23132-06 AH23132-07 AH23132-04

Work Order: AH23132

Report # AH23132-0927180831

EPA Lab ID#'s: Stillwater OK00092 Talsa OK009

Stillwater OK00092 Talsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.;

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:
Method Reference:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @— Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126678

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 9:40

Lab Log# AH23132-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D99231	Radium 228	BPQL pCi/L		0.754	08/29/18 12:49	09/05/18 11:48
Radium 228 - EPA 904/9320 (Cert 89517/D99231	Uncertainty +/-	0.531 pCi/L			08/29/18 12:49	09/05/18 11:48
Radium 226 - SM7500RaB (Cart 19517/D9923;	Radium 226	0.223 pCi/L		0.209	08/29/18 14:29	09/05/18 00:44
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.231 pCi/L			08/29/18 14:29	09/06/18 00:44

Sample: MW-2 MK-126679

Location Code:

Notes

PWSID#:

Collection Type: Grab

Radium 228 - EPA 904/9320 (Cen

Method/Parameter

#9517/1099231

Sample Time:

Result

BPQL pCi/L

Test

Radium 228

8/23/18 10:05

Lab Log# AH23132-02

POL# Prep Info Analysis Info 0.848 08/29/18 12:49 09/05/18 11:48 08/29/18 12:49 09/05/18 11:48

Radium 228 - EPA 904/9320 (Cert Uncertainty +/-0.588 pCi/L #9517/099231 Radium 226 - SM7500RaB (Cott Radium 226 0.267 pCi/L 08/29/18 14:29 09/06/18 01:14 #9517/D99231 Radium 226 - SM7500RaB (Cert Uncertainty +/-0.246 pCi/L 08/29/18 14:29 09/06/18 01:14 #9517/D9923;

Sample: MW-3 MK-126680

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:25

Lab Log# AH23132-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Infe
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redimn 228	2.09 pCi/L		D.933	08/29/18 12:49	09/20/18 09:28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.685 pCi/L			98/29/18 12:49	09/20/18 09:28
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	0.488 pCi/L		0.208	08/29/18 14:29	09/06/18 01:45
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncortainty +/-	0.314 pCi/L			08/29/18 14:29	09/06/18 01:45

Sample: MW-4 MK-126681

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 11:02

Lab Log# AH23132-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	2.03 pCi/L		9.874	08/29/18 12:49	09/20/18 09:28
Radium 228 - EPA 904/9320 (Cert	Uncertainty +/-	0.661 pCi/L			08/29/18 12:49	09/20/18 09:28
Radium 226 - SM7500RaB (Cert 99517/D9923:	Radium 226	0.488 pCi/L		0,208	08/29/18 14:29	09/06/18 02:15
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.313 pCi/L			08/29/18 14:29	09/06/18 02:15

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Sample: MW-5 MK-126682

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 11:21

Lab Log# AH23132-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 > EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.701	08/29/18 12:49	09/20/18 09:28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.402 pCi/L			08/29/18 12:49	09/20/18 09:28
Radium 226 - SM7500RaB (Cert #9517/D9923	Radium 226	0,221 pCi/L		0.207	08/29/18 14:29	09/06/18 02:45
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.230 pCi/L			08/29/18 14:29	09/06/18 02:45

Sample: MW-1 DUP MK-126683

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 10:40

Lab Log# AH23132-06

Method/Parameter	Test	Resul	lt	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL	pCi/L		0,798	08/29/18 12:49	09/20/18 09;28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.505	pCi/L			08/29/18 12:49	09/20/18 09:28
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	0.310	pCi/L		0.207	08/29/18 14:29	09/06/18 03:16
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.260	pCi/L			08/29/18 14:29	09/06/18 03:16

Sample: Blank Water MK-126684

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

8/23/18 11:35

Lab Log# AH23132-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.684	08/29/18 12:49	09/20/18 09:28
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.434 pCi/L			08/29/18 12:49	09/20/18 09:28
Radium 226 - SM7500RaB (Cort 99517/D9923)	Radium 226	0,224 pCi/i.		0.210	08/29/18 14:29	09/06/18 03:46
Redium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.233 pCi/L			08/29/18 14:29	09/06/18 03:46

Notes and Definitions

^{***}Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

MCL Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects PQL

Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 02 15 - BLK = 2019, Jan 2, Banch 515 - Blank)

Lab Manager

505 S. Lowry Street Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Quality Control Data

Blank Data

QC Iab #	Test Group	Test Result		PQL	Flags
18I2681 -B LKI	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redium 228	BPQL pCi/L	0.470	
18J2682-BLK1	Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCiAL	0,110	

Court of C - (00E-X43) 50NOUT 4 XX 4 12036 N. Pennsylvania Phone: (405) 751-3132 Oldahenna Ciry, OK 73120 Fex: (405) 751-3108 Brdtin In (Working Days) -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. -- All Glass containers provided by Accurate Labs have Tellon lines lide ---- Engandeus stamples will be returned to effent or will be dispused of for a fee × 1007 CO Describe SC 23 Es の地を認 (405) 553-4063 banidmoco × 対 Date, Thue 4500883927 Darte/Time C00] <toC Radium 226 and 228 EONH 2 Sh ice 3.5> | FRO Due Date Field Instrument Calibration 620 Rec'd Office RUSH Request -# PKE PO#-(if evadlabie) Phys Rend. Fax f: Summiter Medicale 3. Ft 1003 A.P.VendorInvoices@oge.com RUSH Borron, Calcium, C00] <10C Shandards Mail Invoice To: Email invoice to: Analysis Requested Strangelo Presserv. Se Container Contiding † (918) 663-5400 (918) 663-6300 Motor Type (note analysis & units) Phone #: (553-4079 (pH, Temp, Chlorine, Commun. Oklahount Cas & Riectric Field Results CCR Groundwater Monitoring OG&E Muskogee Power Plant Phone: Security of Lab Bro Par Chain of Custody DVV = Drieddogwater; WW = Bintenester; BL = Simige; O = Otter
GWUDE-ES- Grandhaire under elect i-fluorec of Finder Steam GWUBE-BL = Grandhaire under elect influence of Reservoirflade

Bearm (EPA 200.8), Calciona (IPA 200.7), Chloride (IPA 300), Finande (IPA 300), Statistic (IPA 300), Received By *Ancimony, Arsenie, Berium, Berylliam, Cadmium, Chromium, Colhelt, Lead, Lithium, Molybdenum, Selenium, Thaliinm (EPA 200.8) 6558 B. 40th Street Tubes, OK 74074 MK-126678 MK-126690 MK-12667" MK-126682 Signature: MK-126681 Client I.D. / Sample Location PWS ID# Oktahoma DEG / EPA Location Code 8-22-B (405) 372-5300 Certification by Comment Official: I have perhit that the above sampling commed during a perfort each that the sample(s) fator representative of a typical speculing day the bary for the above facility. WW = Waterstor ; SL = Studge ; O = Ottor Date/Time Enx #: (405) 553-4963 MW-3 MW-2 MW4 MW-5 MW-I 90 (DMR, PWS, Phone: Fax: 22 (C) 4 (C) P Turbidity 0 Ö ٥ O O (B.Coll)= Mail Recent To Smiths CA (200ge.com, downal a) oge-com Project Name Clicat Namo * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK 74074 Source (Richt. BM MD GM GW GW ş mg/L Compliance 025 Reporting? Ohby 109 18 7 Please Taken 200 5501 Three Forts Road Ft. Gibson, OK 74434 Raw Alkalinity (405) 553-4079 Miche (TOC Raw)= 8/23/18 8/23/18 Saimple 8/23/18 Taken 8/23/18 8/23/18 www.accaratelabs.com (309) 516-5227 Accurate Eminemental Lab Reporting Respirements (standard 10-15 working days) o Relate to Los-to Philes Br. TI Refinguished to Lab Br. Accurate Work Order Morth Coles On-Site Info 3 12/2 3 # CI Email: Address

tout A'throchount -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. --12036 N. Pemsylvania Phone: (405) 751-3132 Ohlahensa City, OK 73120 Fex: (405) 751-3108 Raited -- Researchest samples will be resumed to oftent or will be dispused of or a sec-(Working Days) Menoury (EPA 245.1) XX T- 100) -- All Gissa containers provided by Accurate Lake have Teffon lined titls Deta (12.3.78 (405) 553-4063 XX Date Time Date Time Jo4> 1000 Radium 226 and 228 EONH Duc Date Field Instrument Calibration Rec'd 189 Securite Method: RUNH Request PO#-Biq # (if available) NEX # × Finel Read J.+> 1003 SQL AFVendorInvoices@oge.com Boron, Calcium, Chlonde, Huonde, RUSH Standards Contains: Mail invoice To: Entail invoice to: Analyzis Sample Preserv. Condition: Ť 3 3 (918) 663-5400 (918) 663-6300 Phone # (553-4079) (pkł. Temp, Chkrine, ... (noto analysis d. units) Campage Oktahonin Gas & Electric Meld Results OG&E Muskogee Power Plant CCR Groundwater Monitoring Phone Received at Lab III. Peor Chain of Custody _ DW = Drinkingmen; WW = Pastenane; EL = State; O = Other
WUDE-FS = Generalmentation and property from Some GWING-EL = Comments and some inference of Manuscriation (EPA 200.7), Chicaine (EPA 300), Fatoride (EPA 300), Sulfate *Andinony, Arsenia, Berjum, Beryilium, Cadmium, Chromiam, Colbus, Lead, Lithium, Modybdenum, Seleniam, Theffium [EPA 200.8] 6558 E. 40th Street Tuba, OK 74074 MK-126684 MK-126:63 Citent I.D. / Sample Location PWS ID# Okiahoma DEQ / EPA Location Code Descrime (405) 372-5300 (405) 372-5396 Cartification by Comment Official: I bresty cartify that the shows rampling occurred during a period said that the surple(s) islate representative of a spread operation day discourge for the attents fleshive. Blank Water MW-1 DUP Date Clune Esc. (405) 553-4063 ş Yes or (DMR, PWS, 505 South Lowry Street Phone: Stillwater, OK 74074 Fex: Turbidity (R Coll)= Mail Report To Smiths CAR OBE. COM, down all Oge. com Project Name Φ O Client Name * Complete Entire COC to be in Compliance* 20 20 Matrix (Reffe, below) ₩Đ B Compliance T.V Reporting? 0-0 135 Time Sample Taken Cil 5501 Three Forts Road Ft. Gibson, OK 74434 DW = Dynkingwater; GWUDE-FS- Grandmiers Semested By: M. J.Ch. & of Rary Alleallasty (405) 553-4079 TOC Renyla 8/23/18 8/23/18 Accurate www.accuratelaba.com Reporting Requirements (student 10-15 working days) o Reforment to Lab By: O Reford to Log-In Prides By: (800) 516-5127 Wark Order Coll Source Accumate 90 On-Site Info 123 0 Phone &: Address:

Attachment 2 : Analytical Report



October 24, 2018

Client: OG&E - Muskogee

5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



Accreditation Program Kansas CERT # E-10219

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

September 12, 2018

Time: 16:30

sample temp upon arrival at lab = 3°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

AI12183-01 Al12183-05 AJ12183-02 AI12183-06

Al12183-03 AH2183-07 Al12183-04

Work Order:

AT12183

Report #

AI12183-1024181052

EPA Lab ID#s:

Stillwater OK00092 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

New Hampshire Cert.: Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

This report is to only be replicated in its entirety.

Sample: MW-1 MK-127601

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 10:51

Lab Log# AI12183-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCVL		0.742	09/19/18 14:46	10/10/18 10:45
Redium 228 - EPA 904/9320 (Cert 19517/D9923)	Uncertainty +/-	0.628 pCi/L			09/19/18 14:46	10/10/18 10:45
Radium 226 - SM7500RaB (Cent 9517/D9923)	Radium 226	0.343 pCi/L		0.191	09/19/18 14:46	09/21/18 18:20
Radium Z26 - SM7500RaB (Cert	Uncertainty +/-	0.220 pCI/L			09/19/18 14:46	09/21/18 [8:20

Sample: MW-2 MK-127692

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 11:10

Lab Log# AI12183-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - BPA 904/9320 (Cert #9517/D9923)	Radîum 228	BPQL pCi/L		0,868	09/19/18 14:46	10/10/18 10:45
Radium 228 - EPA 904/9320 (Cert 9517/D9923)	Uncertainty +/-	0,573 pCi/L			09/19/18 14:46	10/10/18 10:45
Radium 226 - SM7500RaB (Cen #9517/D9923:	Radium 226	BPQL pCi/L		0.226	09/19/18 14:46	09/21/18 18:20
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.112 pCi/L			09/19/18 14:46	09/21/18 18:20

Sample: MW-3 MK-127603

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 11:30

Lab Log# AI12183-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.837	09/19/18 14:46	10/10/18 10:45
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.618 pCi/L			09/19/18 14:46	10/10/18 10:45
Radium 226 - 8M7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0.228	09/19/18 14:46	09/21/18 18:20
Radism 226 - SM7500RaB (Cert	Uncertainty +/-	0,187 pCi/L			09/19/38 14:46	09/21/18 18:20

Sample: MW-4 MK-127604

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

9/12/18 11:54

Lab Log# AI12183-04

Method/Parameter	Test	Result	Notes	PQLs	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Redium 228	1.38 pCi/L		1,13	09/19/18 14:46	10/10/18 10:45
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.969 pCi/L			09/19/18 14:46	10/10/18 10:45
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	0.507 pCi/L		0.286	09/19/18 14:46	09/21/18 18:20
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.294 pCi/L			09/19/18 14:46	09/21/18 18:20

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Sample: MW-5 MK-127605

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 12:10

Lab Log# All 2183-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cent #9517/D9923)	Redium 228	1.62 pC	S/L	1.19	09/19/18 14:46	10/10/18 10:45
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	1.06 pC	S/L		09/19/18 14:46	10/10/18 10:45
Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	0.643 pC	VL	0.266	09/19/18 14:46	09/21/38 18:20
Radium 226 - SM7500RaB (Cart #9517/D9923	Uncertainty +/-	0.329 pC	i/L		09/19/18 14:46	09/2 L/18 18:20

Sample: MW-2 DUP MK-127686

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 11:10

Lab Log# AI12183-06

Method/Parameter	Test	Resul	lt	Notes	PQL#	Prep Info	Analysis Infe
Radium 228 - EPA 904/9320 (Cett #9517/D99231	Radium 228	2.02	pCi/L		1.27	09/19/18 14:46	10/10/18 10:45
Redium 228 - EPA 904/9320 (Cert #9517/D99231	Uncertainty +/-	1.02	pCi/L			09/19/18 14:46	10/10/18 10:45
Radium 226 - SM7500RaB (Cert #9517/D9923	Radium 226	BPQL	pCi/L		0.372	09/19/18 14:46	09/21/18 18:20
Radium 226 - SM7500RaB (Cert 19517/D9923)	Uncertainty +/-	0.296	pCi/L			09/19/18 14:46	09/21/18 18:20

Sample: Blank Water MK-127607

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/12/18 12:30

Lab Log# AI12183-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - BPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.852	09/24/18 10:03	10/10/18 10:45
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.509 pCi/L			09/24/18 10:03	10/10/18 10:45
Radium, 226 - SM7500RaB (Cert #9517/D99231	Radium 226	BPQL pCi/L		0.300	09/19/18 10:03	09/25/18 13:37
Radium 226 - SM7508RaB (Cert #9517/D9923)	Uncertainty +/-	0.079 pCi/L			09/19/18 10:03	09/25/18 13:37

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

MCL	Analyte consentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Sec	mdary Drinking Water Regulations.
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Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reposting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects PQL

Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 07 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Quality Control Data

Blank Data

QC Lab#	That Group	Tent	Result	PQL	Flaga
18J2424-BLKI	Radium 228 - HPA 904/9320 (Cert #9517/D9923)	Redium 228	BPQL pCi/L	0.424	
18/2430-BLK1	Radium 226 - SM7500RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L	0.053	

-062 12036 N. Pennsylvania Pione: (405) 751-3132 Objektionia City, OK 73120 Por. (405) 751-3108 (Worlding Days) -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate.--Fax # 405-553-4063 Po#- 4500883927 Date/Time Standards Final Road. Date Due Date Ree'd S RUSH Request 非四田 (If available) Grab C001 < 40C RUSH × ы × M 4 Madinm 226 and 228 Sample Method: APVendorInvoices@oge.com Mail Invoice Email invoice to: Preserv. 3910 E. 51* Street Phone: (918) 363-5409 Tubia, OK 79135 First (918) 963-6300 Zhouz# 405-553-4079 With Type OG&E Muskogee Power Plant CCR Groundwater Monitoring Received at Lab Br. Chain of Custody WW = Wastewater SSL = Shodge O = Other Groundvarian
order direct influence of Phering Stream GWUSB-RL = Onsubvaire under direct influence of Phering Stream Received By Simulatine PWS ID# Oklahoma Company: Oktabona Gas & Electric MW-1 MK- 12 7601 MW-2 MK- 127602 MW-3 MK- 12365 MW-5 MK- 123609 MW-4 MK-12%04 97/47/8 4730 Date:Time Phone (405) 372-5300 East (405) 372-5396 Cartification by Company Official: I breaky cortify that the above sampling occurred during a period such that the standards before a hyporal operating day descharge for the above fieldly. Sampled By: Minheel forther. Commence Octahenes 8 5501 Three Forks Road, Ft. Gibson, OK 74434 à (DMR, PWS, Smithsca@oge.com, dowta@oge.com 10 Project Nillia Tarbidity Client Manie 田の部) Rat (405) 553-4063 " Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK 74074 WW = Wastewater Manager A GW GW GW GW GW mg/L Compliance Reporting? 11:1000 11.5ta 40 (5:0) 11:300r 1700 P. A.C. DW = Detailing Water GWUDL FIS - G. Relincial of Br. Wheeler Raw Alkadulty g. Phone #: (405) 553-4079 9/12/18 (TOC Rary)-9/12/18 9/12/18 9/12/18 9/12/18 Www.accatatelaba.com A courate Brytonacos Labs O Relinquished to Lab By: O Relaid to Lossin Priston By: Matrix Codes E.Coli Source On-Site (fills Mad Report. 8 8 Address Email:

Brifelah 12026 N. Pennsylvania . . . Phone: (405) 751-2132.
Oklahisma. Clv; QK 73120 Fax: (405) 751-3138 (Working Days) Ear#: 405-553-4063 - All samples are salicabled to be disposed of in 4 weeks of receipt at Accurate.-4500883927 Date Time. Daty Inc DisterTime Due Date Standards Frail Read I D. B. Roo'd 3. RUSH Request (if available) PO#-Bid#-Sample Method: Grab RUSH Þď × Adver: APVendorInvoices@oge.com Mail hydice Email involce to: 39(0.E. 51* Street .: Photic. (913); 663-5408 .: Tobic, OK 74(35 : Per: ... (913); 663-6300 Metera Phone # 405-553-4079 OG&E Muskogee Power Plant CCR Groundwater Monitoring Reseived at Lab By: Chain of Custody Received By: DW - Drinking Water WW - Wasterwitz SL - Sindge O = Other, Groundwater GWUDI-186 Counstrate units dives influence of Revents Caroline and Caroline of Reserved Line. Oktahoma PWS ID # Blank Water MR- 13760 7 MW-2 DUP MK- 15%04 Centification by Commany Officials I handy outlify that the above sampling occurred during a period such that the namine is into representative of a suplest operating the discharge for the above health. Sampled By: Mintent Jordan. 230 (405) 372-5300 를 a VIII Yes or No Address 5501 Three Forks Road, Ft. Gibson, OK 74434 (DMR, PWS, 505 South Lowry Street Phone. Stillmater, OK 74074 Rex. Smithsca @o_e.com, dowta@oge.com 10日本上町で Turbidate (ACOR) **西北 (405) 553-4063** * Complete Entire COC to be in Compliance* B Compliance Reporting? 7:30 ~60 f. 11 Raw Albailtaity Page# (405) 553-4079 9/12/18 9/12/18 (TOC Raw) courate WWw.nccuratelaba.com (800) 516-5227 o Relingiated to Late By: o Relate to Los-in Eridge By: Op She links 1288 Relinguished By: Matrix Codes S.Coll Rours Mail Report: Contiferate

Attachment 2: Analytical Report



October 30, 2018

Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National Environmental Leboratory Actreditation Program Kanan CERT # E-18219

9/26/18

Sample Project Name:

CCR Groundwater Monitoring

Date Samples Received:

September 27, 2018

Time: 8:15

sample temp upon arrival at lab = 1°C - On Ice

Matrix:

Ground Water

Lab Log Numbers:

Al27001-01 Al27001-05 Al27001-02 Al27001-06 Al27001-03 Al27001-07

AI27001-04

Work Order:

AI27001

Report #

AE27001-1030181112

EPA Lab ID#s:

A12/001-1030161112

Stillwater OK00092 Tuisa OK00983

00983 OKC OK00129 ICR OK 001

Oklahoma Certification:

Stillwater Waste Water, DBQ 8316/ Drinking Water, DBQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification:

Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.:

Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification:

Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference:

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference:

If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126722

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 12:52

Lab Log# A127001-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.650 pCi/L		0,623	19/18/18 10:47	10/22/18 16:25
Radium. 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.416 pCi/L			10/18/18 10:47	10/22/18 16:25
Radium 226 - SM7500RaB (Curt #9517/D9923)	Radium 226	BPQL pCi/L		0,252	10/06/18 15:32	10/18/18 16:39
Redium 226 - SM7500RaB (Cert	Uncertainty +/-	0.281 pCi/L			10/06/18 15:32	10/18/18 16:39

Sample: MW-2 MK-126723

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 13:06

Lab Log# AI27001-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Redium 228 - EPA 904/9320 (Cert 99517/D9923)	Radium 228	BPQL pCi/L		0.597	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty -/-	0.384 pCi/L			10/18/18 10:47	10/22/18 16:25
Radinan 226 - SM7500RaB (Cert 89517/D9923)	Radium 226	BPQL pCi/L		0,269	10/06/18 15:32	10/18/18 17:09
Radium 226 - SM7500RaB (Cert 99517/D9923)	Uncertainty +/-	0.311 pCi/L			10/06/18 15:32	10/18/18 17:09

Sample: MW-3 MK-126724

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 13:21

Lah Log# AI27001-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Raditara 228 - EPA 904/9320 (Cart #9517/D9923)	Radium 228	BPQL pCi/L		0.663	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cert 99517/D9923)	Uncertainty +/-	0,383 pCi/L			10/18/18 10:47	10/22/18 [6:25
Radium 226 - SM7500RaB (Cort 89517/D9923)	Radium 226	0.271 pCVL		0.246	10/06/18 15:32	10/18/18 17:40
Radium 226 - SM7500RaB (Cert 99517/D9923)	Uncertainty 4/-	0.294 pCi/L			10/06/18 15:32	10/18/18 17:40

Sample: MW-4 MK-126725

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 13:41

Lab Log# AI27001-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	1.51 pCl/L		0.755	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cort #9517/D9923)	Uncertainty +/-	0.449 pCi/L			10/18/18 10:47	10/22/18 16:25
Radium 226 • SM7500RaB (Cert	Radium 226	HPQL pCVL		0,246	10/06/18 15:32	10/18/18 18:10
Radium 226 - 8M7500RaB (Cert #9517/D99231	Uncertainty +/-	6.252 pCi/L			10/06/18 15:32	10/18/18 18:10

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Attachment 2 : Analytical Report

Page 2 of 6

AI27001-1030181112

Sample: MW-5 MK-126726

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

9/26/18 13:52

Lab Log# AI27001-05

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.797 pCi/L	0.606	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cort #9517/D9923)	Uncertainty +/-	0.388 pCi/L		10/18/18 10:47	10/22/18 16:25
Radium 226 - \$M7500ReB (Cert #9517/D9923)	Radium 226	BPQL pCi/L	0.245	10/06/18 15:32	10/18/18 18:40
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0,215 pCi/L		10/06/18 15:32	10/18/18 18:40

Sample: MW- DUP MK-126727

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 13:21

Lab Log# AI27001-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium, 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.924 pCi/L		0.509	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cert #9517/09923)	Uncertainty +/-	0.393 pCi/L			10/18/18 10:47	10/22/18 16:25
Redium 226 - SM7590RaB (Cent #9517/D9923)	Radium 226	BPQL pCi/L		0,245	10/06/18 15:32	10/18/18 19:10
Redige 226 - SM7500RaB (Cert #9317/D9923)	Uncertainty +/-	0.214 pCi/L			10/96/18 15:32	10/18/18 19:10

Sample: Blank Water MK- 126728

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

9/26/18 13:55

Lab Log# AI27001-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cen #9517/D9923)	Radium 228	0.883 pCi/L		0.450	10/18/18 10:47	10/22/18 16:25
Radium 228 - EPA 904/9320 (Cort #9517/D9923)	Uncertainty +/-	0,379 pCi/L			19/18/18 10:47	10/22/18 16:25
Radium 226 - SM7500RaB (Cert #9517/D99231	Radium 226	BPQL pCi/L		0.283	10/06/18 15:32	10/18/18 19:41
Radium 226 - SM7500RaB (Cert 89517/D9923	Uncertainty +/-	0,196 pCi/L			10/06/18 15:32	10/18/18 19:41

Notes and Definitions

***Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

MCL Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with PQL.

interferences/matrix effects

Below Practical Quantitation Limit (if applicable). BPQ1.

The "Prep Dete" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 12 A 22 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 # Fax: 405-372-5396

Quality Control Data

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flags
18J3015-BLK1	Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L	0.389	
18J3020-BLK1	Radium 226 - SM7500RaB (Curt #9517/D9923	Radium 226	BPQL pCi/L	0.144	

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 # Fax: 405-372-5396

08/5 12036 N. Pennsylvania Phone: (405) 751-3132 Oklahoma City, OK 73120 Fax: (405) 751-3108 Initials Date Time 18 3:30 (Working Days) -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate.--Ex# 405-553-4063 4.27-18 Po#- 4500883927 Date, Time Pield Instrument Calibration - No. 1 Due Date 1.3 Rec'd RUSH Request (if available) Biq# Pinal Read. Sample Method: Grab combined RUSH × × 対 × × APVendorInvoices@oge.com Standards Sample Preserv Continu Mail Invoice Email invoice to: 3910 E. 51st Street Phone: (918) 663-5400 Tubs, OK 74135 Fax: (918) 663-6300 Phone #: 405-553-4079 Chiefeld D. Abumple Location. (1914, Despt. Chiefeld Sept. 19 (1914) (1914, Despt. Chiefeld Sept. 1914) (1914, Despt. Chiefeld Sept. 1914) (1914, Despt. Chiefeld Sept. 1914) (19 Meter Type OG&E Muskogee Power Plant CCR Groundwater Monitoring Received at Lab By Chain of Custody Rengistry Aye Marris Cades DW = Draiding Water WW = Wiscowntr SI. Sindga O = Other Green departer
E.Goe Source GWUDI-PS= Grandware unior direct influence of Phriving Resea. GWUDI-PL. Grandware unior direct influence of Phriving Resea DEO/ DPA Location Code Signature MW-5 MK- 126725 Oklahoma PWS ID# MW-4 MK- 126725 MW-! MK- |36 >32 Company: Oklahoma Gas & Electric MW-2 MK- 186 735 MW-3 MK- 126 724 S Certification by Company Official: I tereby certify that the above sampling occurred during a period such that the samples) is tree measure of a topical operating the discharge for the above facility. 505 South Lowry Street Phone: (405) 372-5300 Stillwater, OK 74074 Fex. (405) 372-5396 Date inc Date/Time Yes or No Addess 5501 Three Forks Road, Ft. Gibson, OK 74434 (DMR, PWS, Project Name Smithscagoge.com, dowtagoge.com Client Name. Turbidity (E.Coli)-O ও 0 O * Complete Entire COC to be in Compliance* Pax#: (405) 553-4063 B Ø₩ ₽B QΜ BM TIENT. Compliance 1252 Reporting? 1306 1352 32 34 Raw Alkatinity Phone #: (405) 553-4079 9/26/18 9726/18 9/26/18 9/26/18 9/26/18 (TOC Raw) Reporting Requirements (saintain 18 Maintain 18 Mainta Sampled By: Micheal Jordan WWW.accuratelabs.com (800) 516-5227 Accurate Environmental Labs Refinemished By o Reinquished to Lab By o Reig'd to Law in Tridge By AT27001 On-Site Info Vork Order Mail Report: 5 -02 -03 10-70 Email:

ga.

Attachment 2 : Analytical Report

180 12036 N. Pennsylvania Phone: (405) 751-3132 Oklahoma Ciry, OK 73120 Fax: (405) 751-3130 (Working Days) - All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate.-3:50 Eac # 405-553-4063 Q--727-18 PO#- 4500883927 Date/Time Due Date w RUSH Request Bid#-(if evailable) Rec'd Final Read Sample Method: Grab 825 bms 825 mulbs A benidance RUSH × × APVendorInvoices@oge.com Standards Mail hvoice Email invoice to: 3910 E. 51" Street Phone: (918) 663-5400 Tuba, OK 74135 Fax: (918) 663-6300 Phone # 405-553-4079 4.7 Cont. D. Warm Die Lockston Meter Type 107/17 OG&E Muskogee Power Plant CCR Groundwater Monitoring 1 my Wad Reseived at Lab By: Chain of Custody Marke Codes DW -- Drinking Water WWW -- Wastereater SL -- Sladge O -- Other Groundwater and Manness of Reservabilists R.Coll Statute. CWUBE-83-- Grandwater under direct influence of Floring Stress GWUDL-RL-- Groundwater under direct influence of Floring Stress (O) DEO TRPATAMENT CARE Blank Water MK- 136729 MW-3 DUP MK-136797 Signature Oklahoma PWS ID# Certification by Company Official: I harely certify that the above sampling occurred during a period Signature and that the same let 1 lates representative of a "spical operating day disclar. Another let 1 lates represent the sampled By. Matches I forden Car Server de 2.7. Date/films 505 South Lowry Street Phone: (405) 372-5300 Sdilwater, OK 74074 Perc. (405) 372-5396 Yes or No Address 5501 Three Forks Road, Ft. Gibson, OK 74434 Client Name (DMR, PWS, Project Name Smithsca@oge.com, downa@oge.com Tarbidity O (EC.S) * Complete Entire COC to be in Compliance* Eax#: (405) 553-4063 GW ØM Compliance Reporting? 1355 132 . Raw Albalinity 9/26/18 Phone #: (405) 553-4079 9/26/18 (TOC Raw) Accurate Environmental Labor Reporting Requirements: WWW.securatelabs.com (800) 516-5227 O Relate to Lossin Briden Br 11 C Relinguished to Lab B Comments 1000 On Sife Info AT2700 Relinguished Br Mail Report: 301 5 Email Attachment 2 : Analytical Report

Sampling Log

	Date: 1-8-2019	Colomb II	
Sample ID	Weather Conditions and Temperatur	e: Clear,	Sanny 54°
Field Samplers	Names: Tad Dow, Jo		
	Groundwater Level (ft below TOC):		To: 20'3"
MW01	Sample Time: //: 24		
	Purge Volume: 4 gal	Field pH:	
	Comments:		
	Groundwater Level (ft below TOC)::	4'5"	TD: 20' 1"
MW02	Sample Time: //:/5/		- Carll Confidence Confidence or office confidence
	Purge Volume: 6.9 gal	Field pH:	
	Comments:		gerlande en agalagia y
	Groundwater Level (ft below TOC)::	8'	TD: 22'8"
MW03	Sample Time: 12:06		
	Purge Volume: 7.14 gal	Field pH:	**************************************
	Comments:		
	Groundwater Level (ft below TOC)::	10'7"	TD: 22'4"
MW04	Sample Time: 12:4/	Field pH:	-sensephroradabasehiri i i i - Wangan phili p
	Purge Volume: Gall gal Comments:		
	Groundwater Level (ft below TOC)::		10:21'7"
MW05	Sample Time: 13:02	***	The state of the s
TIE TY VET	Purge Volume: 4.12 gal	Field pH:	n T valence of the factor of t
	Comments:		

Additional Notes:

Groundwater Velocity

Date: 1/08/2019

V=KI/n V = Groundwater velocity

K = Horizontal hydraulic conductivity (at site: 21.3767 μ m/sec = 0.00007013'/sec = 7.013E-05)

I = Horizontal hydraulic gradient = dh/dl = difference in head/horizontal distance between wells)

n = Effective porosity = 0.29 to 0.41 (Sandy Clay) [Use 0.29]

MW1 - MW2: dh = 0.916 MW1 = 509 10.5 498.5 di = 1053.2 MW2 = 502 **4.416** 497.584 I = dh/di = 0.00086973 V = Ki/n = 📗 2.10325E-07 tt/sec = 0.064107 µm/sec MW1 - MW3: dh = 509 10.5 1.5 MW1 = 498.5 dl = 1390 MW3 = 505 8 497 I = dh/dl = 0.001079137 2.60965E-07 ft/sec = 0.079542 µm/sec MW5 - MW4: dh= -0.417MW5 = 506 496 10 dl =326.21 MW4 = 507 10.583 496.417 I = dh/dl = -0.001278318V = KI/n = -3.09132E-07 ft/sec =-0.09422 µm/sec MW5 - MW3: dh= -1 MW5 = 506 10 496 dl = MW3 = 505 773.75 8 497 I = dh/dI = -0.001292407V = KI/n = -3.1254E-07 ft/sec =-0.09526 µm/sec

Attachment	ο.	Groundwater	PP1	P% 1 41	
Auachment	4.	CIDUNOWATEL	PHIOW/	DIRACTION	FIGIR NOTAC
		- A - LOLLO COL	1 1044		I ICIU I VUICO

1-4-2019	Attachment 2 : Groundwater Flow Direction Field Notes
4x-12-105: HG: 0.03058 FH/FH	
Doft 137.76° clockwise for	True North
WI-AUZ-AWA: HG: 0.00829 F1/C1	
DOF: 161.74° clocksise from	True North
UI-MUZ-MUS HG: 0,00589	
DOF: 178.2° clockwise from	True North
21-103-104 HG:0.00148 F1-15+	The state of the s
Dof: 296.76° elockerise From	Tour North
131-M23-MOST Ha! D. 00143 St/St	
DOE: 196° clockwise from	Tour Marth
21-104-1W5 HG: 0.00138 FLAT	
Dof: 193, 13' clackesise From	Tour North
132-103-104: HG: 0.00374 St/4	Anti-recognision-regue
DDF: 34.33° clockerise from	True North
DE-AUX-1019 Ha: D.0038 PHSH	and the results of the destination of the second of the se
Dof: 31.38° clockwise from	True North
32-MN4-MNG HG! 0,00418 St/Ct	2
DE: 29.89° clockes in from	Torre North
135-MW-MUS! HG: 0.00134 FHISH	
DOF: 337.45° clockuste 400	me we North
Approximate the second	
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January 15, 2019

Client: OG&E - Muskogee 5501 Three Forks Road

Fort Gibson, OK 74434

Requested By: -



National
Environmental
Laboratory
Activeditation
Program
Kanan CERT # 8-20219

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: January 09, 2019 Time: 8:10 sample temp upon arrival at lab = 0°C - On Ice

Matrix: Ground Water

Lab Log Numbers: BA09001-01 BA09001-02 BA09001-03 BA09001-04

BA09001-05 BA09001-06 BA09001-07

Work Order: BA09001

Report # BA09001-0115191621

EPA Lab ID#'s: Stillwater OK00992 Tulsa OK00983 OKC OK00129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa Waste Water, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City WasteWater DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # B-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH ELAP Lab ID # 2072

Texas Certification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

follows: @= Tuisa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP, Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Method Reference:

Sample: MW-1 MK-126894

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 11:24

Lab Log# BA09001-01

Method/Parameter	Test	Result	Notes	PQLA	Prep Info	Analysis Infe
Chloride EPA 300.0	Chloride	BPQL mg/L		0.500	01/10/19 09:26 BM	01/10/19 14:50 BM
Fluoride EPA 300.0	Fhsoride	0.26 mg/L		0.10	01/10/19 09:26 BM	01/10/19 [4:50 BM
Sulfate EPA 300.0	Sulfete	6.07 mg/L		0.500	01/10/19 89;26 BM	01/10/19 14:50 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	365.0 mg/L		25.0	01/11/19 11:33 ZS	01/14/19 (1:51 ZS
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	01/10/19 16:30 RW	01/I1/19 19:42 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L		0.0005	01/10/19 L6:30 RW	01/14/19 14:48 PD
Barium (Ba) EPA 200,8	Barium	0.167 mg/L		0,005	01/10/19 16:30 RW	01/11/19 19:42 PD
Beryllium (Be) EPA 200.8	Beryllium	HPQL mg/L		0.001	01/10/19 16:30 RW	01/11/19 19:42 PD
Boron (B) EPA 200,8	Boroz	0.079 mg/L		0.025	01/10/19 16:30 RW	01/11/19 19:42 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	01/10/19 16:30 RW	01/11/19 19:42 PD
Calcium (Ca) EPA 200.7	Calcium	107 mg/L		0,50	01/10/19 16:30 RW	01/14/19 17:47 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	01/10/19 16:30 RW	01/11/19 19:42 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		0.010	01/10/19 16:30 RW	01/11/19 19:42 PD
Lend (Pb) EPA 200.8	Load	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 19:42 PD
Lithium (Li) EPA 6020A	Lithium	HPQL mg/L		0.050	01/10/L9 16:30 RW	01/11/19 15:58 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	01/11/19 08:40 RW	01/11/19 14:27 rw
Molybdemun (Mo) EPA 200.8	Molybdenum	BPQL mg/L		0.005	01/10/19 16:30 RW	01/11/19 19:42 PD
clenium (Sc) EPA 200.8	Selenium	BPQL mg/L		0.0050	01/10/19 16:30 RW	01/11/19 19:42 PD
hellium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 19:42 PD

Sample: MW-1 MK-126804

Location Code:

PWSID#:

Collection Type: Grab

Sample Time;

1/8/19 11:51

Lab Log# BA09001-02

Method/Parameter	Test	Resu	ilt	Notes	PQL#	Prep Info	Analysis Infe
Chluride EPA 300.0	Chloride	34.6	mg/L		5.00	01/10/19 09:26 BM	01/10/19 16:37 BM
Fluoride EPA 300.0	Plaonido	0.24	mg/L		0.10	01/10/19 09:26 BM	01/10/19 16:16 BM
Sulfate EPA 300.0	Sulfate	101	mg/L		5,00	01/10/19 09:26 BM	01/10/19 16:37 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	578.0	mg/L		25.0	01/11/19 11:33 ZS	01/14/19 11:51 28
Antimony (Sb) EPA 200,8	Antimony	BPQL	mg/L		0,005	01/10/19 16:30 RW	01/11/19 19:47 PD
Arsonic (As) EPA 200.8	Arsenic	BPQL	mg/L		0,0005	01/10/19 16:30 RW	01/14/19 14:54 PD
Bezium (Ba) EPA 200,8	Barhaga	0,243	mg/L		0.005	01/10/19 16:30 RW	01/11/19 19:47 PD
Beryikium (Be) EPA 200.8	Beryllium	BPQL	mg/L		0.001	01/10/19 16:30 RW	01/11/19 19:47 PD
Boroz (B) EPA 200.8	Boron	0.171	mg/L		0.025	01/10/19 16:30 RW	01/11/19 19:47 PD
Cadmium (Cd) EPA 200.8	Codmium	BPQL	mg/L		0.0010	01/10/19 16:30 RW	01/11/19 19:47 PD
Caloium (Ca) EPA 200.7	Calcium	134	mg/L		0,50	01/10/19 16:30 RW	01/14/19 17:51 LF
Chromium (Cr) EPA 200.8	Chronsium	BPQL	mg/L		0,010	01/10/19 16:30 RW	01/11/19 19:47 PD
Cobalt (Co) BPA 200.8	Cobalt	BPQL	mg/L		9.010	01/10/19 16:30 RW	01/11/19 19:47 PD
Lead (Pb) EPA 200.8	Lead	BPQL	mg/L		0.0005	01/10/19 16:30 RW	01/11/19 19:47 PD
ithium (Li) EPA 6020A	Lithium	BPQL	mg/L		0.050	01/10/19 16:30 RW	01/11/19 16:02 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL	ug/L		9.050	01/11/19 08:40 RW	01/11/19 14:30 rw

505 S. Lowry Street

Stillwater, OK 74074

■ 405-372-5300 ■ Fax: 405-372-5396

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 11:51

Lab Log# BA09001-02

Method/Parameter	Tent	Result	Notes	PQL#	Prep Info	Analysis Info
Molybdenum (Mo) EPA 200.8	Molybdenum	0.005 mg/L		0.005	01/10/19 16:30 RW	01/11/19 19:47 PD
Scienium (So) EPA 200.8	Solonium	BPQL mg/L		0.0050	01/10/19 16:30 RW	01/11/19 19:47 PD
Thellium (TI) EPA 200.8	Thallium	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 19:47 PD

Sample: MW-3 MK-126806

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:06

Lab Log# BA09001-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chloride	106 mg/i.		12.5	01/10/19 09:26 BM	01/10/19 17:20 BM
Fluoride EPA 300.0	Fluoride	0.19 mg/L		0.10	01/10/19 09:26 BM	01/10/19 16:59 BM
Sulfate EPA 300.0	Sulfete	152 mg/L		12.5	01/10/19 09:26 BM	01/19/19 17:20 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	920.0 mg/L		25.0	01/11/19 11:33 28	01/14/19 11:51 28
Antimony (Sb) EPA-200.8	Antimony	BPQL mg/L		0.005	01/10/19 16:30 RW	01/11/19 19:52 PD
Arsenic (As) HPA 200.8	Arsenic	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/14/19 15:15 PD
Baniana (Ba) EPA 200.8	Barium	0.278 mg/L		0.805	01/10/19 16:30 RW	01/13/19 19:52 PD
Beryllium (Be) EPA 200.8	Boryllium	BPQL mg/L		0.001	01/10/19 16:30 RW	01/11/19 19:52 PD
Boron (B) EPA 200.8	Boron	0.097 mg/L		0.025	01/10/19 16:30 RW	01/11/19 19:52 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010	01/10/19 16:30 RW	01/11/19 19:52 PD
Calcium (Ca) EPA 200,7	Calcium	198 mg/L		0.50	01/10/19 16:30 RW	01/14/19 L7:55 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	01/10/19 16:30 RW	01/11/19 19:52 PD
Cubelt (Co) BPA 200.8	Cobult	BPQL mg/L		0.010	01/10/19 16:30 RW	01/11/19 (9:52 PD
Lead (Pb) EFA 200.8	Lead	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 L9:52 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	01/10/19 16:30 RW	01/11/19 16:07 LP
dercury (Hg) EPA 245.1	Mercury	BPQL ug/L		0.050	01/11/19 08:40 RW	01/11/19 14:34 rw
Aolybdanum (Mo) EPA 200.8	Molybdenum	BPQL mg/L		8,005	01/10/19 16:30 RW	01/11/19 19:52 PD
elenium (Se) EPA 200.8	Selenium	BPQL mg/L		0.0050	01/10/19 16:30 RW	01/11/19 19:52 PD
ballium (TI) EPA 200.8	Thellium	BPQL mg/L		0.0005	D1/10/19 16:30 RW	01/11/19 19:52 PD

Sample: MW-4 MK-126807

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:41

Lab Leg# BA09001-04

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Aualysis Info
Chloride EPA 300.0	Chlorida	107 mg/L		12.5	01/10/19 09:26 BM	01/10/19 18:03 BM
Fhamide EPA 308.0	Fluoride	0.23 mg/L		0.10	01/10/19 09:26 BM	01/10/19 17:42 BM
Sulfate EPA 300.0	Sulfate	338 mg/L		12.5	01/10/19 09:26 BM	01/10/19 18:03 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	1346 mg/L		25,0	OL/11/19 11:33 ZS	01/14/19 11:51 28
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0.005	01/10/19 16:30 RW	01/11/19 19:58 PD
Arsenic (As) EPA 200.8	Arsenic	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/14/19 15:20 PD
Barium (Ba) EPA 200,8	Barium	0.215 mg/L		0,005	01/10/19 16:30 RW	01/11/19 19:58 PD
Beryllhun (Be) EPA 200.8	Beryllium	BPQL mg/L		0.001	01/10/19 16:30 RW	01/11/19 19:58 FD
Boron (B) EPA 200.8	Boron	0.085 mg/L		0.025	91/10/19 16:30 RW	01/11/19 19:58 PD
Codmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0.0010		01/11/L9 19:58 PD

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:41

Lab Log# BA09001-04

Method/Parameter	Test	Result Note	s PQL#	Prep Infe	Analysis Info
Celoium (Ca) EPA 200,7	Calcium	317 mg/L	0.50	01/10/L9 16:30 RW	01/14/19 17:59 LF
Chromium (Cr) EPA 200,8	Chromium	BPQL mg/L	0.010	01/10/19 16:30 RW	01/11/19 19:56 PD
Cobalt (Co) EPA 200.8	Cobelt	BPQL mg/L	0.010	01/10/19 16:30 RW	01/11/19 19:58 PD
Lead (Pb) EPA 200,8	Lead	BPQL mg/L	0.0003	01/10/19 16:30 RW	01/11/19 19:58 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	0L/10/19 16:30 RW	03/11/19 16:11 LF
Mercury (Hg) EPA 245.1	Меюшу	BPQL ug/L	0.050	01/11/19 08:40 RW	01/11/19 14:37 rw
Molybdenum (Mo) EPA 200.8	Molybdamm	0.006 mg/L	0.005	01/10/19 16:30 RW	01/11/19 19:58 PD
Selenium (Se) EPA 200.8	Solenium	BPQL mg/L	0.0050	01/10/19 16:30 RW	01/11/19 19:58 PD
Thallium (T1) EPA 200,8	Thellium	BPQL mg/L	0.0003	01/10/19 16:30 RW	01/11/19 19:58 PD

Sample: MW-5 MK-126808

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 13:02

Lab Log# BA09001-05

Method/Parameter	Test	Result		Notes	PQL#	Prep Info	Apalysis Info
Chloride EPA 300.0	Chloride	19.8	mg/L		12.5	01/10/19 09:26 BM	01/10/19 18:47 BM
Fluorido EPA 300,0	Fluoride	0.16	mg/L		0.10	01/10/19 09:26 BM	01/10/19 18:25 BM
Sulfato EPA 300,0	Suifiste	139	mg/L		12,5	01/10/19 89:26 BM	01/10/19 18:47 BM
Total Dissolved Solids SM2540 C	Total Disselved Solids	723.0	mg/L		25.0	01/11/19 11:33 ZS	01/14/19 11:51 28
Antimony (Sb) EPA 200.8	Antimony	BPQL 1	mg/L		0.005	01/10/19 16:30 RW	01/11/19 20:03 PD
Amenic (As) EPA 200,8	Arsenic	BPQL 1	mg/L		0.0005	01/10/19 16:30 RW	01/14/19 15:26 PD
Barium (Be) EPA 200.8	Barium	0.159 r	mg/L		0.005	01/10/19 16:30 RW	01/11/19 20:03 PD
Beryllium (Bo) EPA 200.8	Beryllium	BPQL o	mg/L		100.0	01/10/19 16:30 RW	01/11/19 20:03 PD
Baron (B) EPA 200.8	Boron	0.221 2	mg/L		0.025	01/10/19 16:30 RW	01/11/19 20:03 PD
Cadmium (Cd) EPA 200.8	Cedanium	BPQL z	ng/L		0.0010	01/10/19 16:30 RW	01/11/19 20:03 PD
Calcium (Ca) EPA 200.7	Calcium	199	ng/L		0.50	01/10/19 16:30 RW	01/14/19 18:02 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL n	ng/L		0.010	01/10/19 16:30 RW	01/11/19 20:03 PD
Cobelt (Co) EPA 200,8	Cobalt	BPQL n	ng/L		0.010	01/10/19 16:30 RW	01/11/19 20:03 PD
Lend (Pb) EPA 200.8	Lead	RPQL a	ng/L		0.0005	01/10/19 16:30 RW	01/11/19 20:03 PD
Lithium (Li) EPA 6920A	Lithium	BPQL n	ng/L		0.050	01/19/19 16:30 RW	01/11/19 16:L5 LF
Moreury (Hg) EPA 245.1	Mercury	BPQL u	ıg/L		0.050	01/11/19 08;40 RW	01/11/19 14:46 rw
Molybdanum (Mo) EPA 200.8	Molybdenum	BPQL n	ng/L		0.005	0L/10/19 16:30 RW	01/11/19 20:03 PD
Belanium (Se) EPA 200.8	Selenium.	BPQL m	og/L		0.0050	01/10/19 16:30 RW	01/11/19 20:03 PD
Thellium (TI) EPA 200.8	Thallium	BPQL m	ıg/L		0.0005	01/10/19 16:30 RW	01/11/19 20:03 PD

Sample: MW-5 DUP MK-126809

Location Code:

PWSID#;

Collection Type: Grab

Sample Time:

1/8/19 12:06

Lab Log# BA09001-06

Method/Parameter	Test	Rest	alt	Notes	PQL#	Prep Info	Analysis Info
Chloride EPA 300.0	Chlorida	107	mg/L		12.5	01/10/19 09:26 BM	01/10/19 19:30 BM
Finorida EPA 300.0	Fluoride	0.19	mg/L		0.10	01/10/19 09:26 BM	01/10/19 19:08 BM
Sulfate EPA 300.0	Sulfate	154	mg/L		12,5	01/10/19 09:26 BM	01/10/19 19:30 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	952.0	mg/L		25.0	01/14/19 11:09 ZS	01/15/19 11:45 ZS

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:06

Lab Log# BA09001-06

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Analysis Infi
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0.005	01/10/19 16:30 RW	01/11/19 20:09 PD
Areenic (As) EPA 200.8	Arsenic	BPQL mg/L	0.0095	01/10/19 16:30 RW	01/14/19 15:31 PD
Barism (Ba) EPA 200.6	Barium	0.286 mg/L	0.005	01/10/19 16:30 RW	01/11/19 20:09 PD
Beryllium (Bc) EPA 200.8	Beryllium	BPQL mg/L	0.001	01/10/19 16:30 RW	0L/11/19 20:09 PD
Boron (B) EPA 200.8	Boron	0.091 mg/L	0,025	01/10/19 16:30 RW	01/11/19 20:09 PD
Cadmium (Cd) EPA 200.8	Cedmium	BPQL mg/L	0.0010	01/10/19 16:30 RW	01/11/19 20:09 PD
Calcium (Ca) EPA 200.7	Calcium	194 mg/L	0.50	01/10/19 16:30 RW	01/14/19 18:06 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L	0.010	01/10/19 16:30 RW	01/11/19 20:09 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L	0.010	01/10/19 16:30 RW	01/11/19 20:09 PD
Lead (Pb) EPA 200.8	Losd	BPQL mg/L	0.0005	01/10/19 16:30 RW	01/11/19 20:09 PD
Lithium (Li) EPA 6026A	Lithium	BPQL mg/L	0.050	01/10/19 16:30 RW	01/11/19 16:20 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ng/L	0.050	01/11/19 08;40 RW	01/11/19 14:49 EW
Molybdemun (Mo) EPA 200.8	Molybdemun	BPQL mg/L	0.005	01/10/19 16:30 RW	01/11/19 20:09 PD
Selenium (Se) HPA 200.8	Solenium	BPQL mg/L	0.0050	01/10/19 16:30 RW	01/11/19 20:09 PD
Thallium (TI) EPA 200.8	Thellium	BPQL mg/L	0.0005	01/10/19 16:30 RW	01/11/19 20:09 PD

Sample: Blank Water MK-126810

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 13:29

Lab Log# BA09001-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Infe	Aualysis Info
Chluride EPA 300.0	Chloride	BPQL mg/L		0.500	01/10/19 09:26 BM	01/10/19 20:36 BM
Fluoride EPA 300.0	Fluoride	BPQL mg/L		0.10	01/10/19 09:26 BM	01/10/19 20:56 BM
Sulfate EPA 300.0	Sulfate	BPQL mg/L		0,500	01/10/19 09;26 BM	01/10/19 20:56 BM
Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L		25,0	01/11/19 11:33 28	01/14/19 11:51 Z8
Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L		0,005	01/10/19 16:30 RW	01/11/19 20:30 PD
Arrenic (As) EPA 200.8	Amenic	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 20:30 PD
Barium (Ba) EPA 200.8	Barium	0.011 mg/L		0.005	01/10/19 16:30 RW	01/11/19 20:30 PD
Beryllium (Be) EPA 200,8	Beryllium	BPQL mg/L		9.001	01/10/19 16:30 RW	01/11/19 20:30 PD
Boron (B) EPA 200.8	Baran	HPQL mg/L		0,025	01/10/19 16:30 RW	01/11/19 20:30 PD
Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L		0,0010	01/10/19 16:30 RW	01/11/19 20:30 PD
Calcium (Ca) EPA 200.7	Calcium	13.2 mg/L		0.10	01/10/19 16:30 RW	01/11/19 20:04 LF
Chromium (Cr) EPA 200.8	Chromium	BPQL mg/L		0.010	01/10/19 16:30 RW	01/11/19 20:30 PD
Cobalt (Co) EPA 200.8	Cobalt	BPQL mg/L		9.010	01/10/19 16:30 RW	01/11/19 20:30 PD
Lead (Pb) EPA 200.8	Lead	BPQL mg/L		0,0905	01/10/19 16:30 RW	01/11/19 20:30 PD
Lithium (Li) EPA 6020A	Lithium	BPQL mg/L		0.050	01/10/19 16:30 RW	01/11/19 16:37 LF
Mercury (Hg) EPA 245.1	Mercury	BPQL ug/L		9.050	01/11/19 08:40 RW	01/11/19 14:52 rw
Malybdenum (Mo) EPA 200.8	Molybdenum	BPQL mg/L		0.005	01/10/19 16:30 RW	01/11/19 20:30 PD
lelenium (Se) EPA 200.8	Selenium	BPQL mg/L		0,0050	01/10/19 16:30 RW	01/11/19 20:30 PD
Thellium (T1) EPA 200.8	Thallium.	BPQL mg/L		0.0005	01/10/19 16:30 RW	01/11/19 20:30 PD

Notes and Definitions

#52	Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.
MCL	Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.
###	Analyte concentration may exceed regulatory limit.
PQL	Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/metric effects
BPQL	Below Practical Quantitation Limit (if applicable).

The "Prop Date" of the QC ensiys second des with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Quality Control Data

Blank Data

QC Lab#	Test Group	Test	Result	PQL	Flag
19A1033-BLK1	Chloride EPA 300,0	Chloride	BPQL mg/L	0.500	
19A1033-BLK1	Fluoride EPA 300.0	Fluoride	BPQL mg/L	0,10	
19A1033-BLK1	Sulfate EPA 300,0	Sulfate	BPQL mg/L	0,500	
19A1146-BLK1	Total Dissolved Solids SM2540 C	Total Diszolved Solids	BPQL mg/L	25.0	
19A1435-BLK1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	BPQL mg/L	25.0	
19A1091-BLK1	Antimony (Sb) EPA 200.8	Antimony	BPQL mg/L	0,005	
19A1091-BLK1	Arsenic (As) EPA 200.8	Arsonio	BPQL mg/L	0.0005	
19A1091-BLK1	Berium (Be) EPA 200.8	Barium	BPQL mg/L	0.005	
19A1091-BLK1	Beryikium (Bs) EPA 200.8	Beryllium	BPQL mg/L	0.001	
19A1091-BLK1	Boron (B) EPA 200.8	Boron	BPQL mg/L	0.025	
19A1091-BLK1	Cadmium (Cd) EPA 200.8	Cadmium	BPQL mg/L	0.0010	
19A1094-BLK1	Calcium (Ca) EPA 200.7	Caloism	BPQL mg/L	0.10	
19A1091-BLKI	Chromium (Cr) EPA 200.8	Chromian	BPQL mg/L	0.010	
9A1091-BLK1	Cobalt (Co) EPA 209.8	Cobala	BPQL mg/L	0.010	
9A1091-BLK1	Lead (Pb) BPA 200.8	Lesd	BPQL mg/L	0.0005	
9A1093-BLK1	Lithium (Li) EPA 6020A	Lithium	BPQL mg/L	0.050	
9A1130-BLK1	Mercury (Hg) EPA 245.1	Mercury	BPQL ng/L	0.050	
9A1091-BLK1	Molybdenum (Mo) EPA 200.8	Molybdenum	BPQL mg/L	0.005	
9A1091-BLK1	Selenium (Sc) EPA 200.8	Selenium	BPQL mg/L	0.0050	
9A1091-BLK1	Thellium (TI) EPA 200.8	Thallium	BPQL mg/l.	0.0005	

Duplicate Sample Data

QC Lab#	Test Group	Test Name	Source	Dup Result	Samp Result	% RPD	RPD Limit	Flags
19A1033-DUP1	Chloride EPA 300.0	Chloride	BA09001-07	BPQL	BPQL	UDL	20	
19A1033-DUP1	Fluoride EPA 300.0	Fluoride	BA09001-07	BPQL	BPQL	UDL	26	
19A1633-DUPI	Sulfate EPA 300.0	Sulfate	BA09001-07	BPQL	BPQL	UDL	20	

Quality Control Data

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Fings
12E-EE01A91	Chloride EPA 300,0	Chloride	2.72	3,000	mg/L	91	90 - 110	
19A1033-BS1	Fluorido EPA 300.0	Fluorida	1.89	2,900	mg/L	94	90 - t10	
19A1033-BS1	Sulfate EPA 300.0	Sulfate	14.8	15.00	mg/L	99	90 - 110	
19A1146-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	976.0	1090	mg/L	98	80 - 320	
19A1435-BS1	Total Dissolved Solids SM2540 C	Total Dissolved Solids	967.0	1000	mg/L	97	80 - 120	
19A1091-BS1	Antimony (3b) EPA 200.8	Antimony	0.099	0.1000	mg/L	99	85 - 115	
19A1091-BS1	Argenic (As) EPA 200.8	Argenic	0.0936	0,1000	mg/L	94	85 - 115	
19A1091-BS1	Barium (Ba) EPA 200,8	Barium	0.101	0,1000	mg/L	101	85 - 115	
19A1091-BS1	Beryllium (Be) EPA 200.8	Beryllium	0.085	0.1000	mg/L	85	85 - 115	
19A1091-BS1	Boron (B) EPA 200.8	Boron	0.090	0.1000	mg/L	90	85 - 115	
19A1091-BS1	Cadmium (Cd) EPA 200.8	Cadmium	0.0987	0,1000	mg/L	99	85 - 115	
9A1091-BS1	Chromium (Cr) EPA 200.8	Chromium	0.091	0.1000	mg/L	91	85 - 115	
9A1091-BS1	Cobalt (Co) EPA 200.8	Cobalt	0,093	0.1000	mg/L	93	85 - 115	
9A1091-BS1	Lead (Pb) EPA 200.8	Lend	0.100	0.1000	mg/L	100	85 - 115	
9A1091-BS1	Molybdenum (Mo) EPA 200.8	Molyhdanum	0.097	0.1000	mg/L	97	85 - 115	
9A1091-BS1	Selenium (Sc) EPA 200,8	Selenium	0,0996	0.3000	mg/L	100	85 - 115	
9A1091-BS1	Thellium (TI) EPA 200.8	Thallism	0.1001	0.1000	mg/L	100	85 - 115	
9A1093-BS1	Lithium (Li) EPA 6020A	Lithium	1.07	1.000	mg/L	107	85 - 115	4
9A1094-BS1	Calcium (Ca) EPA 200.7	Calcium	1.91	2.000	mg/L	96	85 - 115	
9A1130-BS1	Mercury (Hg) BPA 245.1	Mercury	1,92	1,667	ug/L	115	85 - 115	

Matrix Spike Data

QC Lab#	Test Group	Test Name	Source Sample	Sample Result	Units	Spike Result	Spike Level	% Res.	Acceptance Limits	Flags
19A1033-MS1	Chlorida EPA 300.0	Chloride	BA09001-07	BPQL	mg/L	2,98	3.334	90	80 - 120	
19A1033-MS1	Fluoride EPA 300.0	Fluorida	BA09001-07	BPQL	mg/L	3.20	3.334	96	80 - 120	
19A1033-MS1	Sulfate EPA 300,0	Sulfate	BA09001-07	BPQL	mg/L	2.98	3.334	89	80 - 120	
19A1094-MS1	Calcium (Ca) EPA 209.7	Calcium	BA09001-02	134	mg/L	130	2.000	-225	85 - 115	#52
19A1093-MS1	Lishium (Li) EPA 6020A	Lithium	BA09001-01	BPQL	mg/L	0.984	1.000	98	85 - 115	
19A1130-MS1	Mercury (Hg) EPA 245.1	Meropry	BA09001-01	BPQL	ug/L	1.62	1,667	109	85 - 115	

Matrix Spike Duplicate Data

			Sample	Spike	Spile		%	Rec.	%	RPD	
QC Lab#	Test Group	Test Name	Result	Result	Level	Units	Ret.	Limits	RPD	Limit	Flags
19A1094-MSD1	Calcium (Ca) EPA 200.7	Celcium	134	132	2.000	mg/L	-125	85-115	2	20	#52
19A1093-MSD1	Lithium (Li) EPA 6020A	Lithium	BPQ1.	0.967	1.000	mg/L	97	85-115	2	20	
19A1130-MSD1	Mercury (Hg) EPA 245.1	Метситу	BPQL	1.90	1,667	ug/L	114	85-115	4	20	

Intrais. 12036 N. Pennsylvania Phone: (405) 751-3138 Oklahöma City, OK 73120 Par: (405) 751-3108 0% (Working Days) - All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate... Eat 405-553-4063 × × × × M - Hizzardous samples will be returned to cilent or will be dispused of for a fee --Finoxide (EPA 300) C001 < 4.C Mercury (BPA -All Glass containers provided by Accurate Labs have Teffan lined like × K × Po#- 4500883927 Coo! < 4.C Titte Date/Time Date/Time banidano 5/17/1 Dade CC musibasi Dat > 100 Due Date Reld Instrument Californiton . countrents) **EONE** × × 岐 × × Metals* (see 10:0 C001 < 4°C Reo'd Or RUSH Request - 作 PER (if available) Final Read. × ĸ × × TD2 M Sample Metad; Grab Boron, Calaium, Chioride, Phroride, RUSH Ħ ĸ Ħ ĸ × APVendorInvoices@oge.com Contribute Standarits Amalyzis Requested Mail lawies Email invoice to: Ť 3 m ന Phone (918) 663-5400 Fax: (918) 663-6300 Digge# 405-553-4079 (1984, Terry, Chlorine, ...) (1984, 22adyais & unite.) Meter Type OG&E Muskogee Power Plant Field Results CCR Groundwater Monitoring *Antitnony, Arsenie, Barinn, Beryllium, Cadmium, Chromium, Cobuit, Lead, Libbium, Mohydenum, Sebenium, Thaitiam (EPA Chain of Custody Received at Lab DW = Drinking Writer WW = Westewnitz St. = Studge O = Other Groundwater
CWUDL-85s - Grandwater rades does inflances of Flowing Stream GWUDL-81s. Orondwater under dress inflances of Flowing Stream Received By: Baron (BPA 200.8), Calcium (BPA 200.7), Chloride (BPA 300), Pluodde (BPA 300), Suifste (BPA 300), 3910 E. 51" Street Tules, OK 74135 Shemature Client I.D. / Sample Location Oklahoma PWS ID # BEQ / EPA Location Code Certification by Company Official: I heavy certify that the above sampling occurred during a period such that the samples is seen representative of a optical operation, do disclosure for the above fields.

Samples By Ted Pow, keeps Calibress

Company: Oldshown Ges & Electric MW-3 MK- 126 806 MW-2 MK- 126805 MW-1 MK-126804 MW-4 MK- 126 807 MW-5 MK- 126808 086 (405) 372-5300 (405) 372-5396 Date Time 44 Dete/Time 욷 5501 Three Forks Road, Ft. Gibson, OK 74434 Yes or (DMR, PWS, Phone; Fex: Smithsca@oge.com, dowta@oge.com ges go O O O O O Turbiday (E.Coll) Client Name Project Mame * Complete Entire COC to be in Compliance* East: (405) 553-4063 505 South Lowry Street Stillwater, OK 74074 Matuta Of Source Stone (8 B₩ Ø₩ 8 MD Cempliance Reporting? Time Sample Triken 35 3067 3. 3 Raw Aiballelle 1/08/19 1/08/19 1/08/19 61/80/1 1/08/19 Phoma #: (405) 553-4079 (TOC Raw) Date Sample Taken remember 1 also WWW.accuratelabs.com (800) 516-5227 Reporting Regultroments (stondard 10-15-worlding-days) O Reinquisited to Lab By: O Rein'd to Loy-in Bridge Br Accurate Relinquished By: Accurate Work-Order Matrix Codes Mail Report: On-Site Info AG 88 0 9 0 Address Email:

Dittale. 12036 N. Pennsylvania Phone (405) 751-3132 Oklahoma City, OK 73½20 Par. (405) 751-3138 040 (Working Days) - All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate.-Eac # 405-553-4063 - Hazardous samples will be returned to dilest or will be disposed of for a fee Fluoride (EPA 300) Cool < 44C ĸ M - All Glass containers provided by Accurate Labs have Tethos lined itds アンナ × M Making (EBA Po#- 4500883927 C991 < 4₆C Date/Time Date Time pouiquos//3/1 Due Date (вишешию) HMO3 COOT < NC Reo'd C × × ese) *zlatelv RUSH Request 华其田 (if evailable) fold Instrument Calif Float Read. × ĸ SQL 3.4 > 1000 Boron, Calcium, Chloride, Fluoride, Sulfate Sample Method: Grab RUSH × × APVendorInvoices@oge.com Coutsifres: Standinds Analysis. Requested Skinple Preserv. Mail Invoice: Email invoice to: m 3910 R. 51st Street Phone: (918) 663-5400 Tubes, OK 74135 Pax: (918) 663-5400 Piene#: 405-553-4079 Meter Type (piii, Temp, Chiorine, (nite atialysis & pais) Field Results OG&E Muskogee Power Plant CCR Groundwater Monitoring Recoived at Lab Time *Antimony, Arsenie, Barlum, Berylkum, Cadmison, Chromium, Cobalt, Land, Lithium, Malybdonum, Selonium, Thallum (EPA Received By: // Chain of Custody Martix Cades DW = Drieting Water WWW = Waterwise SL = Single U = Other, Groundwaler

E.Coll Science: GWUDL-69:= Groundwaler under direct influence of Sharing Stream GWUDL-40:= Groundwaler under dress influence of Sharing Stream GWUDL-40:= Groundwaler under dress influence of Sharing Stream GWUDL-40:

Comments: Borron (BPA 200.8), Caforium (BPA 200.7), Chienide (BPA 300), Fluxdide (BPA 300), Sulfate (BPA 300), Blank Water MK- 126 %10 Signature: CHERT L.D. / Sample Location MW-3 DUP MK-126809 DEG/ RPA Location Code PWS ID# Cottification by Commany Official: I hareby certify that the above sampling consured during a period signature such that the talm being sides representative of 2. hydrall operating the other tear the above facility. Sampled By: Tail Dow, Jeson Childrens Oklahoma OBO Detections ?-- K (405) 372-5300 (405) 372-5396 Date/Time Yes or No 5501 Three Forks Road, Ft. Gibson, OK 74434 (DMR, PWS, Phoae: Fax: Mail Report: Smithsca (700ge.com, dowta@oge.com हुँ छ । हुँ छ । Turbdity Project Name O Client Name. O East: (405) 553-4063 * Complete Entire COC to be in Compliance* 505 South Lowry Street Stillwater, OK. 74074 Mairtx Ø₩ GW Reporting? Tangle Talom 306 1329 Raw Alkelinity 1/08/19 1/08/19 Phone# (405) 553-4079 TOC RAW Date Sample Taken www.accuratelaba.com (800) 516-5227 Accurate Environmental Labs Retinguished By: Reporting Requisionnessits (Stanton 10-15 vorting (2376)). O Reignathed to Lab B.: O Reignath Loc-In Prides Br. Accurate Work Order 4 Of ool On-Silte Info 中にし 90-Address Email:



February 12, 2019 Client: OG&E - Muskogee 5501 Three Forks Road Fort Gibson, OK 74434

Requested By: -



National Environmental Laboratory Accreditation Program Kaussa CERT # E-10219

sample temp upon arrival at lab = 0°C - On Ice

Sample Project Name: CCR Groundwater Monitoring

Date Samples Received: January 09, 2019 Time: 8:10

Matrix: Ground Water

Lab Log Numbers: BA08002-01 BA08002-02 BA09002-03 BA09002-04 BA09002-06 BA09002-07

Work Order: BA09002

Report # BA09002-0212191104

EPA Lab ID#s: Stillwater OK00092 Tube OK00983 OKC OK09129 ICR OK 001

Oklahoma Certification: Stillwater Waste Water, DEQ 8316/ Drinking Water, DEQ D9602

Tulsa WasteWater, DEQ 9905 / Drinking Water, DEQ D9901

Oklahoma City Waste Water DEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Oklahoma City NELAP CERT # E-10414

New Hampshire Cert.: Oklahoma City Drinking Water NH BLAP Lab 1D # 2072

Texas Certification: Stillwater Drinking Water NELAP CERT # T105704533-14-1

Method Reference: 40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes
EPA-690/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes,
SW-846, Final Update III. Standard Methods 1998 (20th Edition), Standard

Methods 2005 (21st Edition) and Standard Methods 2011 (22nd Edition) for the

Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as

follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis

performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed at the Stillwater lab meet all requirements of NELAP. Any exceptions to this can be

found in the report footer or Quality Control Section of the report.

This report is to only be replicated in its entirety.

Accurate Environmental sampling protocol was followed for any sampling

performed by Accurate Field Services.

Sample: MW-1 MK-126804

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 11:24

Lab Log# BA09002-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #951/7/D9923)	Radium 228	BPQL pCi/L		0.434	01/17/19 14:20	01/22/19 16:32
Radium 228 - EPA 904/9320 (Cert #9317/D9923)	Uncertainty +/-	0.465 pCi/L			01/17/19 14:20	01/22/19 16:32
Radium 225 - \$M7500RaB (Cert 69517/D9923)	Radium 226	BPQL pCi/L		0.372	01/18/19 09:25	01/21/19 14:40
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.254 pCi/L			01/18/19 09:25	01/21/19 14:40

Sample: MW-2 MK-126805

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 11:51

Lab Log# BA09002-02

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	1.33 pCl/L		0.535	01/17/19 14:20	01/24/19 14:29
Radium 228 - EPA 904/9320 (Cert 99517/D9923)	Uncertainty	0.388 pCi/L	_		01/17/19 14:20	01/24/19 14:29
Radium 226 - SM7500RaB (Cort 89517/D9923:	Radium 226	BPQL pCi/L		0.252	01/18/19 09:25	01/21/19 14:40
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.138 pCi/L			01/18/19 09:25	01/21/19 14:40

Sample: MW-3 MK-126806

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:06

Lab Log# BA09002-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	BPQL pCi/L		0.554	01/17/19 14:20	01/24/19 14:29
Radium 228 - EPA 904/9320 (Cert 99517/D9923)	Uncertainty +/-	0.438 pCl/L			01/17/19 14:20	01/24/19 14:29
Radium 226 - SM7500RaB (Cert #9517/D99231	Radium 226	BPQL pCi/L		0.211	01/18/19 09:23	01/21/19 14:40
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty +/-	0.145 pCVL			01/18/19 09;25	01/21/19 14:40

Sample: MW-4 MK-126807

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:41

Lab Log# BA09002-04

Method/Parameter	Test	Result Notes	PQL#	Prep Info	Auglysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0,835 pCi/L	0.646	01/17/19 14:20	01/25/19 09:10
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.380 pCi/L		01/17/19 14:20	01/25/19 09:10
Radium 226 - SM7500RaB (Cert #9517/D9923	Redium 226	0.345 pCi/L	0,262	01/18/19 09:25	01/21/19 14:40
Radium 226 - SM7500RaB (Cert #9517/D9923)	Uncertainty 4/-	0.258 pCi/L		01/18/19 09:25	01/21/19 14:40

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300

Fax: 405-372-5396

Sample: MW-5 MK-126808

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 13:02

Lab Log# BA09002-05

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	HPQL pCi/L		0.663	01/17/19 14:20	02/01/19 11:56
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	9.427 pCi/L			01/17/19 14:20	02/01/19 11:56
Radium 226 - 8M7500RaB (Cort #9517/D9923	Radium 226	BPQL pCi/L		0.273	01/18/19 09:25	01/21/19 14:40
Radisun 226 - SM7500RaB (Cert	Uncertainty +A	0.117 pCi/L			01/18/19 09:25	01/21/19 14:40

Sample: MW-3 DUP ME-126809

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 12:06

Lab Log# BA09002-06

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.914 pCi/L		0.501	01/17/19 14:20	02/01/19 11:56
Redium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.373 pCi/L			01/17/19 14:20	02/01/19 11:56
Radium 226 - SM7500RaB (Cert #9517/D9923	Radium 226	BPQL pCi/L		0.252	01/18/19 09:25	01/21/19 14:40
Radium 226 - SM7500RaB (Cert	Uncertainty +/-	0.196 pCi/L			01/18/19 09:25	01/21/19 [4:40

Sample: Blank Water MK-126810

Location Code:

PWSID#:

Collection Type: Grab

Sample Time:

1/8/19 13:29

Lab Log# BA09002-07

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Aualysis Info
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Radium 228	0.948 pCi/L		9.610	01/17/19 14:20	02/01/19 11:56
Radium 228 - EPA 904/9320 (Cert #9517/D9923)	Uncertainty +/-	0.352 pCi/L			01/17/19 14:20	02/01/19 11:56
Radium 226 - SM7590RaB (Cert #9517/D9923)	Radium 226	BPQL pCi/L		0,309	01/18/19 09:25	01/21/19 14:40
Radium 226 - 8M7500RaB (Cert	Uncertainty +/-	0.130 pCi/L			01/18/19 09:25	01/21/19 14:40

Notes and Definitions

^{***}Alpha, Beta and Radium analysis performed under NELAC certification NJ OK001 and OK 9517.

Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations. MCL

Analyte concentration may exceed regulatory limit.

Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects PQL

Below Practical Quantitation Limit (if applicable). BPQL

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Butch #15 - Hinnk)

Lab Manager

505 S. Lowry Street

Stillwater, OK 74074

405-372-5300 Fax: 405-372-5396

Quality Control Data

Blank Data

QC Lab #	Test Group	Test	Result	PQL	Flags
19B1213-BLK1	Radium 228 - EPA 904/9320 (Cent #9517/D9923)	Radium 228	BPQL pCi/L	0.272	
19B1214-BLK1	Radium 226 - SM7500RaB (Cart #9517/D9923	Radium 226	BPQL pCI/L	0.081	

Initials 12036 N. Pennsylvania Phane: (405) 751-3132 Oklahoma City, OK 73120 Pax: (405) 751-3108 S. (Working Days) K - All samples are scheduled to be disposed of in 4 weeks of receipt at Accusta. 四本 405-553-4063 × worlde (EPA 300) × -- Hazardous samples will be relumed to aftent or will be disposed of far a fee --C04 < 4C W - All Glass containers provided by Asonnate Labs have Teffon lined fids ×ć Mercury I 4500883927 M O-4+ > 100℃ DateThine Date/Time Three complaced M × × H M July > 1000 a Due Date HMO3 < 4.C × × ĸ अध्याहित (200 K Rec'd On the RUSH Request PO#-を開 Relicinatrument Celli (if available) First Read ĸ × × × SOL 3.4 > 1000 Bonon, Calciu ; Chalonide Provide, C sulfate şí ⋈ K Sample Me oct Grab RUSH × × APVendorInvoices@oge.com Sample Preserv. Analysis Represented Contribue Mail lavoice. Email invoice to: m 60 3910 E. 514 Street Phune: (918) 663-5400 Tuke, OK 74135 Fax: (918) 663-6300 Page 405-553-4079 (pH, Temp, Chlorine,) (note smallysis & varies) Meter Type OG&E Muskogee Power Plant Field Results CCR Groundwater Monitoring Received at Lab B *Anthrony, Arsente, Bartun, Baylium, Csémium, Chromium, Cobalt, Lead, L'Athum, Molydensun, Selenium, Tuslium (EPA Chain of Custody DW— Daiscing Water WW = Wistenster SL = Starting O = Other Groundwater

GWUDN-FS - Coundwater code times influence of Floring States GWUDI-R2,— Great-functuate under dress influence of Reservoirt.des

GWUDN-FS - Coundwater code times influence of Floring States of Reservoirt.des

Borons (EPA 200.8), Calcium (EPA 200.7), Calcufde (EPA 300), Fluoride (EPA 300), Sulfate (EPA 300), Beceived By: Client LD. / Sample Location Oklahoma DEQ / EPA Lecation Code PWS ID# Cecitification by Commany Official: I hereby certify that the above sampling occurred during a peciod Signature and that the sample(b) have representative of a typical operating the discharge for the above fleaths.

Signatural Rich Ted Dow, Asyon Childress MW-2 MK- 126805 MW-3 MK- 126806 MW-1 MK- 126804 MW-5 MK- 126808 MW-4 MK- 126 8c7 OSB (405) 372-5300 (405) 372-5396 Date/Dime "44 Yea or No 5501 Three Forks Road, Ft. Gibson, OK 74434 (DMR, PWS, Phone: Fax: Mel Report: Smithsca@oge.com, downa@oge.com 8 8 8 8 B Project Name O O 0 Perbldity O 0 (RColl) Client Name * Complete Entire COC to be in Compliance* Par#: (405) 553-4063 505 South Lowry Street Stillwater, OK 74074 Matrix or Source (Reter below) MS B B 8 BA Compliance Reporting? Time Sample Taken 1 2ª 980 3 R Raw Alba Buity 1/08/19 1/08/19 1/08/19 1/08/19 1/08/19 Please (405) 553-4079 TOC REWY Sample Taken Accurate General Control of the Cont WWW.accuratelebs.com (800) 516-5227 Reporting Regalitations (straight of 10.15 worlding they) o Religiosistical to Lab By: O Relaid to Los-in Fridge By: Refingulated By: Accurate Work Order A 09 cm On-Sife lafo. 9 70 P Address

hittels 12036 N. Peansylvania Phone: (405) 751-3132 Oklahema City, OK 73120 Fax: (405) 751-3108 (Working Days) - All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate. - Hezardous samples will be returned to offest or will be disposed of for a fise -Bac#: 405-553-4063 mond (EPA 300) C001 < 4.C × ĸ Mencury (EPA -- All Chass containers provided by Accurate Labs have Teffer lined lids --Date/Time × Jup > [000] 4500883927 Dets . Time Date/Time combined × × Radium 226 and 228 Due Date Rec'd 5.60 Pield Institution Calibration -Ź CONH K C00] < 4PC PO#-RUSH Request #128 (if available) Pirel Read M ĸ **SQT** C001 < 4cC Sample Method: Grab Boron, Calcium, Chloride, Plucade, RUSH × APVendor Invoices@oge.com Standards Sample Preserv. Analynts Requested Container Mail Invoice Email invoice to: 'n m 3910 E. 51" Street Phone: (918) 663-5400 Tules, OK 74135 Fer: (918) 663-6300 Phone # 405-553-4079 (pH, Temp, Chlorine, ...) Meter Type OG&E Muskogee Power Plant Fleld Regults CCR Groundwater Monitoring Received at Lab Mr. "Antimony, Arsene, Bertam, Berylliam, Cadminn, Cadminn, Cobett, Lead, Lithiam, Mahbdenun, Selenium, Thesiam (EPA Chain of Custody Reserved By. // (TOC Raw):

DW = Drinking Water WW = Westownier SL = Shalp O = Other Groundwinks

CWUD4.85 - Grandware sader disce influence of Phoring Steam GWUD4-RL - Grandware under direct influence of Reservoir Law Boron (EPA 200.8), Calvium (EPA 200.7), Chloride (EPA 300), Fluoride (EPA 300), Sulfate (EPA 300), Cheff I.D. / Sample Lecation. Blank Water MK- 126 %10 MW-3 DUP MK-1248 CF Oklahoma PWS ID # DEQ / EPA Location Code Cartification by Contemy Official: I tereby certify that the above sampling occurred thring a period Signature such that the same lefts induce an extractive of a typical according day discharge for the above facilities.

Sampled By: The Dow, Asom Childress

Contemps: Oklahoma Ges & Elecution UNU Date Tripe (405) 372-5300 (405) 372-5396 DateTime Yes or No Address S501 Three Forks Road, Ft. Gibson, OK 74434 (DMR, PWS, Phone: Pax: Mail Report: Smithsca@oge.com, dowta@oge.com ge = go O Φ Turbidity (RCob)* Project Name * Complete Entire COC to be in Compliance* Eax# (405) 553-4063 505 South Lowry Street Stillwater, OK 74074 GW Ø₩ Сотривае Reporting? Time Sample. Taken 1306 33 Raw Albeitatty Email: (405) 553-4079 1/08/19 1/08/19 Date Sample Token Accurate Entremental Labs www.accuratelabs.com (800) 516-5227 Répording Requirements (siminat 10-15 working days) To Referentiated to Lab Br: O Reto'd to Lon-in Exign Br: Reliancialized By: Accerate Work Order Matrix Codes E.Coll Source On-Site Info 90-24 0920 200.8)

Attachment 2 : pH and Temperature Log

Date	Sample	Time (Grab)	Time (Analyzed)	pH	Temp (C)	Sample ID #
3/14/2018	MW 01	1211	1224	7.03	17.9	MK126482
3/14/2018	MW 02	1238	1246	7.07	17.5	MK126483
3/14/2018	EO WM	1257	1305	6.93	17.7	MK126484
3/14/2018	MW 04	1329	1335	6.79	18.7	MK126485
3/14/2018	MW 05	1347	1353	6.91	18.6	MK126486
4/3/2018	MW 01	1059	1112	7.09	17.5	MK126503
4/3/2018	MW 02	1120	1133	6.99	17.2	MK126504
4/3/2018	MW 03	1142	1153	6.86	17.3	MK126505
4/3/2018	MW 04	1204	1214	6.72	17.6	MK126506
4/3/2018	MW 05	1224	1232	6.82	17.3	MK126507
4/27/2018	MW 01	1110	1118	6.99	16.6	MK126527
4/27/2018	MW 02	1130	1138	6.89	16.7	MK126528
4/27/2018	MW 03	1155	1203	6.84	17.2	MK126529
4/27/2018	MW 04	1222	1230	6.67	17.9	MK126530
4/27/2018	MW 05	1241	1247	6.78	17.8	MK126531
5/23/2018	MW 01	1057	1103	6.98	17.5	MK126551
5/23/2018	MW 02	1143	1151	6.92	17.5	MK126552
5/23/2018	MW 03	1206	1213	6.83	17.6	MK126553
5/23/2018	MW 04	1232	1239	6.68	18.4	MK126554
5/23/2018	MW 05	1254	1300	6.79	18.3	MK126555
5/14/2018	MW 01	1001	1010	6.97	18.7	MK126589
5/14/2018	MW 02	1030	1040	6.9	18.8	MK126590
5/14/2018	MW 03	1110	1120	6.82	19.8	MK126591
6/14/2018	MW 04	1140	1147	6.68	19	MK126592
/14/2018	MW 05	1205	1213	6.8	19.7	MK126593
/27/2018	MW 01	1032	1040	6.94	19	MK126610
5/27/2018	MW 02	1100	1109	6.9	20	Mk126611
/27/2018	MW 03	1125	1136	6.8	19.8	MK126612
/27/2018	MW 04	1155	1204	6.66	19.8	MK126613
/27/2018	MW 05	1218	1226	6.78	19.8	MK126614
/19/2018	MW 01	935	941	6.95	19.7	MK126635
/19/2018	MW 02	957	1007	6.91	20	MK126636
/19/2018	MW 03	1018	1029	6.79	19.6	MK126637
/19/2018	MW 04	1046	1050	6.67	19.5	MK126638
/19/2018	MW 05	1110	1117	6.78	20.3	MK126639
3/2/2018	MW 01	931	941	6.99	19.3	MK126652
3/2/2018	MW 02	1000	1009	6.92	19.3	MK126653
3/2/2018	MW 03	1025	1037	6.83	19.8	MK126654
/2/2018	MW 04	1051	1100	6.7	19.1	MK126655
/2/2018	MW 05	1113	1123	6.8	19.8	MK126656
/23/2018	MW 01	940	950	6.97	20	MK126678
/23/2018	MW 02	1005	1013	6.91	19.7	MK126679
/23/2018	MW 03	1025	1034	6.95	19.3	MK126680
/23/2018	MW 04	1102	1109	6.69	19.1	MK126681
/23/2018	MW 05	1121	1129	6.78	20	MK126682
/15/2019	MW 01	1315	1327	7.06	17.6	MK126821

Attachment 2 : pH and Temperature Log

1/15/2019	MW 02	1350	1358	6.96	17.6	MK126822
1/15/2019	MW 03	1435	1445	7.02	17.3	MK126823
1/15/2019	MW 04	1524	1532	6.8	17.9	MK126824
1/15/2019	MW 05	1547	1556	6.86	18.5	MK126825
4/17/2019	MW 01	1207	1215	7	16.1	MK126884
4/17/2019	MW 02	1227	1234	6.93	16.3	MK126885
4/17/2019	MW 03	1245	1253	6.88	16.1	MK126886
4/17/2019	MW 04	1308	1316	6.71	17.5	MK126887
4/17/2019	MW 05	1325	1332	6.82	17.6	MK126888

Attachment 2 MYY01 Sample Data Summary

3/14/201	8 Parameter	Result		4/3/201	8 Parameter	Result		5/23/201	å Parameter	Result		6/14/2010	3 Parameter	Result
	Chioride	1.6	B mg/L		Chloride	1.21	mg/L		Chloride	0.88	mg/L		Chloride	0.0822 mg/s
	Rouride	0.20	mg/iL		Flouride	0,19	mg/L		Flouride	0.27	mg/L		Flouride	0.24 mg/i
	Sulfate	27	mg/L		Sulfate	19.7	mg/L		Sulfate	14.5	mg/L		Sulfate	LZ# mg/l
	TOS	424	mg/L		TDS	392	mg/L		TEXS	388	mg/L		TDS	413 mg/L
0.006	Antimony	BPQ	L mg/L	0.006	Antimony	6PQ)	mg/L	0.006	Antimony	BPQ	mg/l.	0.006	Antimony	apol mg/L
0.01	Arsenic	BPQ	. mg/L	0.01	Araunic	BPQ	mg/L	0.01	Arsenic	0.012	mg/L	0.01	Arsenic	BPQL mg/L
2	Backern	0.166	mg/L	2	Barlum	0.38	me/L	2	Barium	0.182	me/L	2	Berlum	0.17 mg/L
0.004	Beryllium	BPQ	.mg/L	0.004	Beryllium	BPQ	mg/L	0.004	Beryllium	BPQ	mg/L	0.004	Bervillum	BPQL mg/L
	Boron	0,093	emg/L		Boron	0.074	mg/L		Boron	0.087	mg/L		Boron	0.079 mg/L
0.005	Cadmium	BPQI	mst/L	0.005	Cedmium		ms/L	0.005	Cedmium		me/L	0.005	Cadmium	BPQL mg/L
	Calclum	316	mg/L		Calctum	312	mg/L		Calcium	98	mg/L		Calctum	112 mg/L
0.1	Chromium	3/101	mg/L	0.1	Chromkum		mg/L	4.1	Chromitan		mg/L	DI	Chromium	BPQL mg/L
	Cobalt		ma/L		Cobalt		mg/L		Cobalt		ma/L		Cobalt	BPQL mg/L
	Lead		mg/L		Lead		mg/L		Lead		mg/L		Lead	BPQL mg/L
	Lithhum		mar/L		Lithisan		mg/L		Lithium		mg/L		Lithium	BPOL mg/L
0.002	Mercury	BPQI	ug/L	0.002	Mercury	BPQ(ue/L	0.002	Mercury		μg/L	0.000	Mercury	BPOL pg/L
	Molybdenum		me/L		Molybdenum	BPCI	mg/L		Molybdens		me/L		Molybdenum	BPQL mr/L
0.05	Selenium		mg/L	0.05	Setentum		mg/L	0.05	Selenkop		mg/L	0.05	Selenium	SPQL mg/L
0.002	Thellum		ms/L	0.002	Thaffkum		mg/L	0.002	Thaillum		mg/L	0.002	Thellium	SPOL mg/L
	5/23/2018	Parameter	Test	Result		6/14/2018	Parameter	Test	Result		6/27/2013	Permueter	Test	Result
	• -	Redium 228	Radium 228	BPQ	pCI/L		Radium 228	Radium 228	BPQL p	CI/L			Redium 228	BPQL pCI/L
			Uncertainty +/-	0.579	pCI/L			Uncertainty +/-					Uncertainty +/-	
		Radium 225	Radium 225	BPOL	pCI/L		Radium 226	Radium 225	BPOS. p			Radium 226	Redium 226	BPQL pCi/L
			Uncertainty 4/-		pCI/L			Uncertainty +/-					Uncertainty +/-	
		5 pCV4					SIKIA			-		5 miles		pull pull

Note: Rudium samples not available for first two sample events (3/14/18 & 4/3/18), therefore additional samples were taken to make up the reulred eight (8) samples.

Attackment 2 WWO1 Sorrple Date Buremany

6/27/2010	Parameter	Result		7/19/201	& Parameter	Result		8/2/2011	Peremeter	Result	8/29/201	Parameter	Result
	Chioride	0.715	mg/L		Chloride	0.597	reg/L		Chloride	0,632 mg/L		Chloride	0.546 m
	flouride	0.24	mg/L		Flouride	0.23	mg/L		Flouride	0.21 mg/L		Flouride	0.2 m
	Sulfate	8.90	mg/L		Suffate	7.18	mg/l.		Sulfate	6.8 mg/L		Sulfate	6.82 m
	TDS	397	mg/L		TD\$	389	mg/L		TDS	425 mg/L		TDS	400 m
0.006	Antimony	BPQI	mg/L	0.006	Antimony	8PQI	mg/L	0.006	Antimony	BPQL mg/L	0.006	Antimony	BPQL m
0.01	Arsenic	0,000	mg/L	47:452	Arsenic	RECI	mg/L	0.01	Arsenic	APCL mg/L	0.01	Arsenic	5921 m
2	Bartum	0.154	mg/L	2	Barlum		mg/L	2	Barlum	0.194 mg/L	2	Barlum	0.177 m
0.004	Beryllium	BPQI	mg/L	6,004	Beryllium	BPQI	. mg/L	0.004	Beryllium	BPQL mg/L	0.004	Beryillum	BPQL m
	Boron	0.076	mg/L		Baron	0.077	mg/L		Boron	0.082 mg/L		Boron	0.082 171
0.005	Cadmium	BPQI	mg/L	0.005	Cadvalum	BPQI	mg/L	0.005	Cadmium	BPQL mg/L	0.005	Cadmbim	BPQL m
	Calcium	1.09	mg/L		Calcium	110	mg/L		Celcium	106 mg/L		Calctum	110 mg
0.1	Chromium	BPQL	mg/L	0.1	Chromium	BPQL	mg/L	-0.1	Chromium	BPQL mg/L	0.1	Chromium	SPOL ma
	Cobalt	BPQI	mg/L		Cobalt	BPQL	mg/L		Cobalt	6PQL mg/L		Cobatt	BPQL ms
	Leed	BPQI	mg/L		Lead	BPCk	mg/L		Lead	0.0008 mg/L		Lead	BPCL mi
	Lithlum	SPQL	mg/L		Lithlum	BPQL	mg/L		Lithium	term mg/l.		Uthlum	BPQL ma
61,000	Mercury	BPQL	pg/L	0.002	Mercury	BPQL	µg/L	0.002	Mercury	BPQL µg/L	0.002	Mercury	BPQL 14g
	Molybdenum	BPQL	mg/L		Molybdenum	BPQL	mg/L		Molybdenum	BPQL mg/L		Molybdenum	BPQL ma
0.05	Sefenkem	BPQL	mg/L	0.05	Selentum	BPQL	mg/L	0.05	Selentum	BPQL mg/L	0.05	Selenium	SPOL me
0.002	Theilium	BPQL	mg/L	0.002	Thaillum	#POI	mg/L	100.0	Thallium	SPQL mg/L	0.003	Thellium	BPQI me
/19/2018	Paramater	Test	Result		8/2/2018	Parameter		Result		8/23/2016 Parameter		Result	
	Radium 228	Redium 228		pCi/L		Radium 228			pCl/1.	Radium 228	Radium 228	angi.	piCt/f
		Uncertainty +/-	435	pCI/L			Uncertainty +/-	0.438	pCl/L		Uncertainty +/-	79,533	pCI/L
	Radium 226	Radium 226		pCI/L		Radium 226		0.539		Radium 226	Radium 226	0.223	pCI/L
		Uncertainty +/-	0.154	pCI/L		rh.	Uncertainty +/-	0.314	PCI/L		Uncertainty +/-	0.211	pCI/L
	T pEt/L					pilli				S peak.			

Affachmant 2 MW01 Sample Data Summary

1/8/2019	Patrameter	rameter Result 4/17/201		4/17/2019	Parameter	Result	
	Chloride	SPOR	mg/L		Chloride	0.675	mg/L
	Flouride	0.26	mg/L		Flouride	0.26	mg/L
	Sulfate	6.07	mg/L		Sulfate	10.8	mg/L
	TDS	365	mg/L		TDS	388	mg/L
0.006	Antimony	BPQL	mg/L	0.006	Antimony	BPQL	mg/L
0.01	Arsenic	BPQL	mg/L	0.01	Arsenic	0.0006	mg/L
2	Sartum	0.167	mg/L	2	Bartum	0.172	mg/L
8.004	Seryilium	BPQ1	mg/L	0.004	Beryllium	BPQL	mg/L
	Boron	0.079	mg/L		Boron	0.063	mg/L
P.005	Cadmium	BPQL	mg/L	0.005	Cadmlum	BPQL	mg/L
	Calcium	107	mg/L		Cefclum	108	mg/L
2.5	Chronslum	BPOL	mg/L	0.1	Chromkum	BPQ).	mg/L
	Cobalt	BPOL	mg/L		Cobalt	BPQL	mg/L
	Luard	BPOL	mg/L		Lead	BPOL	mg/L
	Lithium	BPQ4	mg/L		Lithium	SPC)L	mg/L
0.002	Mercury	SPQL	ME/L	D. TICLE	Marcury	BPQL	pg/L
	Molybdenum	BPQL	mg/L		Molybdenun	JD49	mg/L
0.05	Selentum	BPQL	mg/L	0.05	Selenium		mg/L
0.007	Thelium	BPOL		0.002	Thallium		me/L

9/12/2018 Parameter Test	Result	9/26/2018 Parameter Test	Result	1/8/2019 Parameter Test	Result	4/17/2019 Perameter Test	Texult
Radium 228 Radium 228	BFQL pCI/L	Radium 228 Radium 228	0.65 pCt/L	Radium 228 Radium 228	BPCL PCI/L	Radium 22 Radium 22	4.46 pCI/L
Uncertainty +/-	0.628 pCI/L	Uncertainty +/-	0.416 pCI/L	Uncertainty +/-	0.455 pCI/L	Uncertaint	0.422 pCI/L
Radium 226 Radium 226	0,343 pCI/L	Redium 226 Redium 226	BPQL pCi/L	Radjum 226 Radjum 226	SPOL pCI/L	Radium 22 Radium 22	BPQL oCI/L
Uncertainty +/-	0.22 pCI/L	Uncertainty +/-	0.281 pCi/L	Uncertainty +/-	6.254 pO/L	Uncertaint	6 187 pCI/L
5 pt//1		s acul		S pci/s.		li pCl/l	

NWO2 Sample Data Summary

3/14/201	8 Parameter	Result	4/8/201	8 Parameter	Result	5/22/201	8 Parameter	Result	6/14/20:	US Parameter	Result	
	Chloride	39,2 mg/L		Chloride	31 6 mg/L		Chloride	34.1 m	L/L	Chloride	36.9	mar/L
	Flouride	0.25 mg/L		Flouride	5.27 mg/L		Flouride	0.74 m	e/L	Flöurida	0.23	mg/L
	Sulfate	99.8 mg/L		Sulfate	88.7 mg/L		Sulfate	83.4 m	u/L	Stiffate	94.5	mg/L
	TDS	544 mg/L		TDS	522 mg/L		TDS	405 m	e/L	TDS	580	me/L
0.006	Antimony	BPQL mg/L	8.006	Antimony	BPQL mg/L	0.000	Antimony	BPQL m	g/L 0.006	Antimony	BPQ1	mg/L
0.01	Arsenic	BPQL mg/L	10.01	Amenic	BPQL mg/L	0.01	Arsenic	0.013 m	10.01 J	Arsente	BPCIL	mg/L
2	Barium	0.235 mg/l.	2	Barlum	0.231 mg/L	2	Barium	9.245 m	g/L 2	Bertum	0.225	mg/L
0.004	Seryllium	BPQL mg/L	8 DOM	Beryfflum	BPQL mg/L	0.004	Beryfikum	BPQL m	LL 0.000	Berytlum	BPQL	mg/L
	Boron	0.238 mg/L		Boron	0.216 mg/L		Boron	0 252 m	g/L	Boron	0.217	mg/L
0.005	Cadmium	BPOL mg/L	0.905	Cadmium	BPQL mg/L	0.005	Cadmium	BPQL m	A GUE	Cardinfum	BPQL	mg/L
	Celctum	127 mg/L		Calcium	124 mg/L		Celclum	106 m	g/L	Calcium	1349	mg/L
0.1	Chromium	RPG4. mg/L	10. S	Chromium	SPQL mg/L	0.1	Chromium	BPQL m	r/L ₹a	Chromium	BPQ1.	mg/L
	Cobalt	RPCH mg/L		Cobalt	BPQL mg/L		Cobalt	BPQL m	g/L	Cobalt	BPQI.	mg/L
	Lead	BPGi mg/L		Lead	BPQL mg/L		Lead	BPQL m		Lead	SPOL	mg/L
	Uthlum	BPQL mg/L		Lithium	BPQL mg/L		Lithium	BPQL m		Uthium	BPQL	mg/L
0,002	Mercury	BPQL µg/L	0.000	Mercury	BPQL µg/L	\$1,000	Mercury	BPQL pg	/L 0.000	Mercury	BPQL	ME/L
	Molybdenum	BPOL mg/L		Molybdenum	BPQL mg/L		Molybdenur	r BPQL m	r/L	Molybdenum	BPQL	mg/L
0.05	Seienium	8PQL mg/L	0.06	Seferdum	SPGS mg/L	0.05	Selentum	BPQL m	L 0.05	Selenium	BPQL	mg/L
0.002	Thatfum	HPER mg/L	0,562	Thaillum	BPGL mg/L	0.002	Thefilem	BPQ1 m	L/L 0.002	Thelikon	BPQ!	mg/L

5/23/2018 Parameter Test	Hesult	5/14/2018 Personeter	Test	Result	6/27/2018 Parameter	Test	Result
Redium 228 Redium 228	BPQL pCI/L	Radium 228	Radium 228	BPQL pCI/L	Radium 228	Radium 228	MPCL pO/L
Uncertainty+/-	0.719 pCI/L		Uncertainty	0.51 pCl/L		Uncertainty +/-	0.433 pCI/L
Radium 226 Radium 226	0,573 pCI/L	Radium 225	Radium 226	APOL PCI/L	Radium 226	Radium 226	BPQL pCI/L
Uncertainty +/-	0.481 pCI/L		Uncertainty	6 199 bCI/L		Uncertainty +/-	0.489 pCi/L
8 001 4.		5 pcyl			\$ pCiffs		

Note: Radium samples not available for first two sample events (3/14/18 & 4/3/18), therefore additional samples were taken to make up the returned eight (B) samples.

Altachment 2 MWII2 Sammie Date Summers

6/27/201	8 Parameter	Result	7/19/2018 Parameter	Result	8/2/2018 Parameter	Result	8/23/2018 Parameter	Result
	Chloride	4:1.1 mg/L	Chloride	4€. # mg/L	Chloride	41 mg/L	Chloride	It a mest
	Flouride	0.25 mg/L	Flouride	0.22 mg/L	Flouride	0.22 mg/L	Flouride	0.22 mg/L
	Sulfate	105 mg/L	Sulfate	109 mg/L	Sulfate	312 mg/L	Sedfate	105 mg/L
	TDS	603 mg/L	TOS	535 mg/L	TDS	675 mg/L	TDS	631 mg/L
0,006	Antimony	βPQL mg/L	0.006 Antimony	8PGs. ang/L	0.006 Antimony	BPQ1 mg/L	8.00# Antimony	BPQL mg/L
0.01	Arsenic	8PQL mg/L	0.01 Arsenic	BPQL mg/L	0.01 Arsenic	BPQ1 mg/L	0.01 Areenic	BPQL mg/L
2	Barium	0.253 mg/L	2 Bartum	0.25 mg/l.	2 Barium	0.263 mg/L	2 Barium	0.255 mg/l.
0.004	Beryllium	BPQL mg/L	0.004 Beryfflum	BPQL mg/L	0,004 Beryllium	BPQL mg/L	0.004 Bervillum	BPQL mg/L
	Boron	0.225 mg/L	Boron	0.222 mg/L	Boron	0.223 mg/L	Boron	0.221 mg/L
6,005	Cadmium	BPQL mg/L	0.008 Cadmium	BFQL mg/L	0.005 Cadmium	SPOL mg/L	6.60% Cadmium	BPQL mg/L
	Calcium	132 mg/L	Celclum	182 mg/L	Caldum	131 mg/L	Calcium	136 mg/L
0.1	Chromium	BPQL mg/l,	ā.1 Chromium	BPQL mg/L	5.1 Chromium	BPQL mg/L	6.1 Chromium	SPOL mg/L
	Cobalt	BP(U mg/L	Cobalt	SPQL mg/L	Cobelt	BPQL mg/L	Cobait	SPQL mg/L
	Lead	BPC% mg/L	Lead	BPQL mg/L	Lead	BPQL mg/L	Lend	BPQL mg/L
	Uthlum	SPOR mg/L	Lithlum	8PQL mg/L	Lithium	BPQL mg/L	Lithium	8FQ1 mg/L
0.002	Mercury	BPCA MIL/L	0.002 Mercury	BPQL µg/L	B.GGZ Mercury	BPQL µg/L	0.062 Mercury	erch pe/L
	Molybdenum	BPOL mg/L	Molybden	sm 0.005 mg/L	Molybdenum	0.055 mg/L	Molybdenum	
0.05	Selenium	BPQL mg/L	0.05 Selentum	BPQL mg/L	0.05 Selenium	8PQL mg/L	0.05 Selenium	BPQL mg/L
0.002	Thalliam	##da mg/L	0.002 Theillum	BPQL mg/L	0.002 Thallum	BPQL mg/L	0.002 Thatlium	MEN mg/L

7/19/2018 Parameter	Test	Result	8/2/2018 Parameter	Test	Result	9/23/2018 Parameter	Text	Result
Radium 228	Redture 228	BPOL pCI/L	Radium 228	Radium 228	BPQL pQ/L	Redium 228	Radium 228	BPQL pCI/L
	Uncertainty +/-	0.413 pCl/L		Uncertainty +/-	0.436 pCl/L		Uncertainty +/-	0.588 pCI/t
Radium 226	Recilium 226	1.34 pCt/1	Radium 225	Radium 225	0.643 pCl/L	Radium 226	Radium 226	0.267 pCI/L
	Uncertainty +/-	1/463 pCI/L		Uncertainty +/-	6.454 pCI/L		Uncertainty +/-	0.246 pCi/L
% pG/λ			Sptill			5 pCI/t.		

Attachment 2 MW02 Bernple Date Burnnery

1/8/2019	Parameter	Result		4/17/2019	Parametar	Result	
	Chiorida	34,6	mg/L		Chloride		mg/l.
	Flouride	0.24	mg/L		Flouride	9.75	शासु/L
	Sulfate	101	mg/L		Sulfate	94,8	mg/L
	TDS	578	mg/L		T05	568	mg/1.
0.606	Antimony	BPQL	mg/L	0.006	Antimony	BPQI	mg/L
0.01	Arsenic	BPQL	mg/L	0.01	Arsenic	GP(3)	mg/l
2	Sarium	0,243	mg/L	2	Barlum	0.238	mg/l.
0.004	Beryllium	8PQL	mg/L	0.004	Beryllium	arq!	mg/L
	Boron	0.171	mg/L		Baron	0.152	mg/L
0.605	Cadmium	BPQL	mg/L	0.005	Cadmium	BPCE	mg/L
	Calcium	134	mg/L		Calcium	133	me/L
0.5	Chromium	BPQL	mg/L	9.1	Chromium	BPQL	mg/L
	Cobelt	BPOL	mg/L		Cobalt	BPQ1	mg/L
	Lead	BPQL	me/L		Lead	BPQL	mg/L
	Lithkom	BPQL	me/L		Lithium	BPQL	mg/L
0.002	Mercury	SPOL	aut.	0.003	Marcury	BPQL	µg/L
6.00	Molybdenum	0.005	me/L		Molybdenur	ละอุเ	mg/L
0.05	Selentum		me/L	0.05	Selenium	apqı	mg/L
0.002	Thallium	BPCH		0.002	Thalflum	BPCI	mg/L

CI/L
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CVL.
CI/L

Attechment 2 MW03 Sample Data Summary

8/14/2018	Parameter	Result		4/3/2011	8 Perameter	Result		5/23/2018	Parameter	Result	6/14/201	& Passmeter	Possuit
	Chloride	166	mg/L		Chloride	2	5 mg/L		Chloride	140 mg/L		Chloride	L62 mg/L
	Flouride	0.29	mg/L		Flouride	0.:	5 mg/L		Flouride	0.17 mg/t		Flouride	0.18 mg/L
	Sulfate	200	mg/L		Scrifato	1	5 mg/l.		Suffate	184 mg/L		Sulfate	188 mg/L
	TDS	3029	mx/L		TDS	91	16 mg/L		TDS	970 mg/L		TDS	1127 mg/L
0.006	Antimony	BPQL	mg/L	0,006	Antimony	SP(M mg/L	(LEGIN	Antimony	BPQL mg/L	9.006	Antimony	Apat mg/L
0.05	Arrenit	BF(H	ms/l.	0.01	Arsenic	0.0	19 mg/L	0.01	Arsenic	GHSF mg/L	0.01	Arsenic	0.006 mg/L
2	Barken	9.521	mg/L	2	Bartum	034	le mg/L	2	Barlum	0.355 mg/l.	2	Barlum	0,985 mg/L
0.004	Beryllium	BPQL	mg/L	D-004	Beryllium	BP(H mg/L	0.004	Beryllium	BPQL mg/L	0.004	Beryllium	SPQL mg/L
	Baran	0.069	mg/L		Boron	0.00	1 mg/L		Boron	0.08 mg/L		Boron	0.065 mg/L
0.005	Cadmium	BPOS.	mg/L	0,005	Cadmium	BP	L mg/L	0.50%	Cadmium	BPQL mg/L	0.005	Cadmium	SPCI mg/L
	Calchum	298	mg/L		Calcium	2	A mg/L		Calcium	the mg/L		Calcium	235 mg/L
0.1	Chromium	BPCA	mg/L	0.1	Chromium	BPG	d mg/L	0.2	Chromium	BPQL mg/L	0.1	Chromkum	BPQL mg/L
	Cobalt	BPQ4	mg/L		Cobalt	BPC	H mg/L		Cobalt	BPQL mg/L		Cobalt	BPQL mg/L
	Lead	BPQL	mg/L		Lead	BP(L mg/L		Lead	BPOL mg/L		Lead	BI-CU mg/L
	Lithtum	BPOL	mg/L		Lithkern	BPC	ML mg/L		Lithkan	BPQL mg/L		Lithium	BPQL mg/L
0.002	Mercury	BPOL	µg/L	\$1000	Mercury	BPC	<u>Արա/</u> լ	0.002	Mercury	BPQL pg/L	0.002	Mercury	BPOL pg/L
	Molybdenum	12,110e	mg/L		Molybdenum	919	a mg/L		Molybdenum	0.006 mg/t		Molybdenum	0.005 mg/t.
0.05	Selentum	SPOL	mg/L	0.06	Selentum	BPC	H. mg/L	0.05	Salentum	BPOL mg/L	0.05	Selenium	BFOL mg/L
0.802	Thaillum	BPCIL	mg/L	0.002	Thallium	BFC	L mg/L	0.002	Thalltum	BPQL mg/L	0.002	Thallium	EPQL mg/L

5/23/2018 Parameter Test	Result	6/14/2018 Parameter Test	Result	6/27/2018 Peremeter Test	Result
Radium 228 Radium 228	BPQL pCl/L	Redium 228 Redium 228	1.03 pCt/L	Radium 228 Redium 228	0.878 pO/L
Uncertainty +/-	0.637 pCI/L	Lincertainty +/-	6.535 pCI/L	Uncertainty +/-	0.432 pCI/L
Radium 226 Radium 226	0.629 p01/L	Radium 226 Radium 226	BPQL pCI/L	Radium 226 Radium 226	SPQL pti/L
Uncertainty +/	0.488 pCl/L	Uncertainty +/-	0.263 pCI/L	Uncertainty +/-	2 631 pCi/L
S eCVS		Spah		Spill	

Note: Radium samples not available for first two sample evernts (3/14/18 & 4/3/18), therefore additional samples were taken to make up the reulred eight (8) samples,

ADDRESS NO. 2		
elqmatt \$000M	Date	Витимиу

E/27/201	8 Parameter	Result	7/19/2018 Paramete	Result	8/2/2018 Parameter	Result	8/23/2018 Parameter	Result
0/2//202	Chloride	169 mg/L	Chloride	§ ta mg/L	Chloride	177 mg/L	Chloride	17t) mg/L
	Flouride	0.18 mg/L	Flouride	0.14 mg/L	Flouride	0.14 mg/L	Hourida	0.14 mg/L
	Splitte	196 mg/L	Sulfate	200 mg/L	Sullate	200 mg/L	Suffate	198 mg/L
	TDS	1155 mg/L	TDS	2102 mg/L	TDS	1199 mg/L	TOS	1155 mg/L
0.006	Antimeny	BPQL mg/L	0.006 Antimony	BPQ1 mg/L	0,006 Antimony	SPQL mg/L	0.006 Antimorry	BPQL mg/L
0.00	Arsenic	0,0009 mg/L	0.01 Arsenic	BPQL mg/L	0.01 Amenic	EPOI mg/L	0.01 Arsenic	BPQL mg/L
0.01	Barlum	0.289 mg/L	2 Barium	0.327 mg/L	2 Barlum	0,332 mg/L	2 Berlum	0.527 rng/L
0.004	Bervillum	8PQL mg/L	0.004 Beryfflum	BPQL mg/L	0.004 Beryllium	BPQL mg/L	0.004 Seryilium	BPQL mg/L
0.004	Boron	0,061 mg/L	Boron	0.067 mg/L	Boron	0.071 mg/L	Boron	0.072 mg/L
	Cadmium	BPQL mg/L	0.00% Cardmium	APOL mu/L	0.205 Cedmium	BPQL mg/L	6.705 Cadmium	BPQL mg/L
6.005		342 mg/L	Calcium	236 mg/L	Calchum	225 mg/L	Calcium	933 mg/L
	Cuiclum	BPQL mg/L	#1 Chromium		0.1 Chromium	SPCIL mg/L	0.1 Chromium	BPQL mg/L
0.5	Chromlum	BPQL mg/L	Cobalt	BPCL mg/L	Cobalt	BPQL mg/L	Cobalt	BPQL mg/L
	Cubalt	8POL mg/L	Lead	BPCL mg/L	Lead	BPQL mg/L	Load	BPQL mg/L
	Lead		Lithium	BPQL mg/L	Lithium	BPOL mg/L	Lithium	BPQ1 mg/L
	Lithium	RPQ1 mg/L		BPQL ME/L	a oal Mercury	BPCH ME/L	0.002 Mercury	BPOL ME/L
0.000	Mercury	BPQL µg/L	9.602 Mercury Molybden		Mohrbdenun		Mohrbdenum	
	Molybdenum				0.05 Selentum	BPQL mg/L	0.05 Selenium	BPQL mg/L
0.05	Selenium	apat ma/t	0.05 Selentum	BPQL mg/L		BPQL mg/L	0.002 Thailtum	BPQL mg/L
0.002	Thaillum	in the merit	0.002 Thellium	BPEN mg/L	0.003 Thallium	mede milit	Area (Lindham)	man unit

7/19/2018 Parameter	Test	Result		8/2/2018 Personater	Test	Heavilt			Result
Radium 228	Radium 228	SPQI	pCVI.	Rudium 228	Redfum 228	0.829 pCI/L		Redium 228	2.09 pCI/L
(1	Uncertainty +/-	9 562	pa/L		Uncertainty +/-	0.425 pCI/L		Uncertainty •/-	0.685 pCI/L
Redium 226	Radium 226	EPOL	pCI/L	Radium 226	Radium 226	0.393 pCI/4		Redhum 225	0.488 pCI/L
	Lincertainty +/-	0.269	pCI/L		Uncertainty +/-	0.293 pa/L		Uncertainty +/-	3 814 pCi/L
5 (00%)				5 ocus			S pCiff.		

MW03 Bampia Dala Summery

1/8/2019	Parameter	Result		4/17/2019	Parameter	Result	
	Chloride	166	EPE/L		Chlorida	116	mg/L
	Flouride	0.19	mg/L		Flouride	0.19	mg/L
	Sulfate	152	mg/L		Sulfate	136	mg/L
	TDS	920	mg/L		TDS	1002	ang/L
0.000	Antimony	BPOL	mg/L	0.006	Antimony	BPQL	mg/L
0.01	Arsenic	bo LA	mg/L	0.01	Arsenic	BPQL	mg/L
2	Barlum	0.278	mg/L	2	Berlum	0.273	mg/L
0.004	Beryfilum	BPC	mg/L	0.004	Beryllium	BPQ).	mg/L
	Boran	0,097	mg/L		Boran	0.075	mg/L
0.005	Cadmium	BPOL	mg/L	0.006	Cadmium	BPQL	mg/L
	Calcium	198	mg/L		Calcium	203	mg/L
8.1	Chromium	BPGL	mg/l.	0.1	Chromium	BPQ1	mg/L
	Cobalt	BPQL	mg/L		Cobalt	BPQL	mg/L
	Lead	BPQL	mg/L		Lead	BPQL	mg/L
	Lithium	BPQL	mg/L		Lithium	BPOL	mg/L
6.802	Mercury	BPQL	ug/L	0.002	Mercury	BPQL	ME/L
	Molybdenum	BPCL	me/L		Molybdenum	BPOL	mg/L
0.05	Selenium	BPQL		0.05	Selentura	BPQ).	
0.002	Thullium	SPOL	ma/L	0.002	Thallium	8POL	

8/12/2018 Parameter Test Radium 228 Radium 228 Uncertainty +/- Radium 226 Uncertainty +/- Uncertainty +/-	Result BPGL pCi/L 0.618 pCi/L BPGL pCi/L 2.127 pCi/L	9/28/2018 Parameter Test Radium 228 Radium 228 Uncertainty +/- Radium 226 Radium 226 Uncertainty +/-	0.271 pCI/L	1/8/2019 Parameter Test Redium 228 Radium 228 Uncertainty +/- Radium 226 Radium 226 Uncertainty +/-	BPOL pCi/L	4/17/2019 Parameter Test Radium 22 Radium 22 Uncertaint Radium 22 Radium 22 Uncertaint Uncertaint	0 44 pCI/L
5 ptil	and purpose	Social		s ptill	ours book	5 pQ/L	USUS PU/L

MW04 Sample Date Summary

3/14/201	8 Parameter	Result	4/3/201	8 Parameter	Result	5/23/20	18 Parameter	Result		6/14/201	S Perameter	Result
	Chloride	139 mg/l.		Chloride	130 mg/L		Chloride	139	mg/L		Chloride	138 mg/L
	Flouride	0.18 mg/L		Flouride	0.14 mg/L		Flouride	0.26	mg/L		Flouride	0.16 mg/L
	Suffate	347 mg/l.		Suifate	135 mg/L		Soffate	341	mg/L		Suffate	339 mg/L
	TDS	1300 mg/L		TDS	1370 mg/L		TDS	1320	mg/L		TDS	1454 mg/L
0,006	Antimony	BPQL mg/L	0.006	Antimony	BPQL mg/L	0.005	Antimony	BPQI	mg/L	0.006	Antimony	BPQL mg/L
0.01	Arsenic	BPOL mg/L	0.01	Arsenic	0.009 mg/L	0.01	Arsenic	0.022	mg/L	BBL	Armenic	0.007 mg/L
2	Barium	0.244 mg/L	2	Barium	0.245 mg/L	2	Barium	0,274	mg/L	2	Berlum	0.251 mg/L
0.004	Beryllium	BPOL mg/L	0.004	Beryfflum	BPQL mg/L	0.004	Beryflum	BPQI	mg/L	0.004	Beryfilum	BPO: mg/l.
	Boron	0.077 mg/L		Boron	0.07 mg/L		Boran	0.085	mg/t		Вогоп	0.068 mg/L
0.005	Cadmium	BPQL mg/L	0.005	Cudmium	BPQL mg/L	0.965	Cadmium	BPQL	mg/L	0.005	Cadmium	BPQL mg/L
40-50	Calcium	331 mg/L		Calcium	325 mg/L		Calcium	292	mg/L		Calcium	340 mg/L
6.1	Chromium	BPQL mg/L	0.1	Chromium	BPQL mg/L	0.1	Chromium	BPQL	mg/L	0.1	Chromium	BPQL mg/L
	Cobelt	BPQL mg/L		Cobalt	BPOL mg/L		Cobelt	BPOL	mg/L		Cobalt	BPGL mg/L
	Load	BPQL mg/L		Lead	BPQL mg/L		lead	BPQL	mg/L		Lead	8PQL mg/L
	Uthium	BPOL mg/L		Lithium	BPQL_mg/L		Lithium		mg/L		Lithium	BPOL me/L
0,000	Mercury	BPQ1 pg/L	0.003	Mercury	BPOL HE/L	0.003	Mercury	BPQL	µg/L	6.663	Mercury	BPOL µg/L
	Molybdenum			Molybdenum	0.005 mg/L		Molybdenum	0,006	mg/L		Molybdenum	0.006 mg/L
0.05	Seientum	BPCH rog/L	0.05	Selenium	BPQL mg/L	0.05	Selenium	BPQ!	mg/L	0.05	Salenium	BPQL mg/L
0.002	Thaillum	BitCat mg/l	0,002	Thellium	89431 mg/l.	0.002	ThelBurn	4421	mg/L	0.002	Thallium	BPQL mg/L

5/23/2018 Parameter Test	Result	6/14/2018 Peramuter	Test	Result	6/27/2018 Parameter Test	Result
Radium 228 Radium 228	BPQL pQ/L	Radium 228	Redtum 228	RPQL pCI/L	Radium 228 Radium 228	BPQL pCt/L
Uncertainty +/-	0.676 pCI/L		Uncertainty +/-	0.386 pCI/L	Uncertainty	+/- 0.438 pCI/L
Radium 226 Radium 226	0.548 pCl/1	Radium 225	Redkem 226	NFQL pci/L	Redium 226 Radium 226	BPCL pCI/L
Uncertainty +/-	0.46 pCI/L		Uncertainty +/-	0.185 pci/t	Uncertainty	+/- 0'532 pCi/L
s poli		\$ pcift			S pCiA	

Note: Radium eamples not available for first two sample events [3/14/18 & 4/3/18], therefore additional samples were taken to make up the reulred eight [8] namples.

Affacts	ment 2		
849904	Sample	Onta	Summery

6/22/2mi	8 Parameter	Result	7/19/2018	Parameter	Result		8/2/2011	Parameter	Result	8/23/201	8 Parameter	Result	
of miles	Chloride	141 mg/L		Chloride	141	rng/t		Chiloride	140 mg/L		Chloride	137	l mg/l.
	Flouride	0.18 mg/t.		Flouride		mg/L		Flouride	0.14 mg/L		Flouride	0.16	5 mg/l.
	Sulfate	357 mg/L		Sulfato	363	mg/L		Sulfate	368 mg/L		Sulfate	251	mg/L
	TD5	1535.mg/L		TD5	1420	mg/L		TDS	1557 mg/L		TD5	1460	mg/L
0.006	Antimony	BPOL mg/L	0.006	Antimony		mg/L	0.006	Antimony	SPQL mg/L	0.006	Antimony	BPO	L mg/L
0.01	Arsenic	0.0000 mg/L	0.01	Arsenic		mg/L	0.01	Argenic	BPQL mg/L	0.01	Arsenic	SPQI	L mg/L
2	Barium	0.231 mg/L	2	Barken		mg/L	2	Barium	0,262 mg/t.	2	Barium	0.249	mg/i.
0.004	Bervillum	BPOL mg/L	0.004	Beryllium		mg/L	0.004	Beryllium	BPQL mg/L	0.004	Beryllium	BPOJ	L mg/L
LEADON	Soran	0.063 mg/L		Boron		mg/L		Soron	0.067 mg/L		Boron	6.023	mg/L
6 055	Cadmium	BPQL mg/L	0.005	Cadmium		mg/L	0.005	Cadmium	BPQL mg/L	0.005	Cadmium	BPOL	mg/L
6 600	Caldum	336 mg/L	cades.	Calclum		mg/L		Calcium	329 mg/l.		Calcium	920	mg/L
0.1	Chrombum	BFQL mg/L	0.2	Chromium		mg/L	61	Chromium	BPQL mg/L	0.1	Chromlum	MFOI	mg/L
67.9	Cobalt	BPQL mg/L	- Colorina	Cobalt		mg/L		Cobalt	BPQL mg/L		Cobalt	HPQI	mg/L
	Lead	BPOL mg/L		Lend		mg/L		Load	BPCH mg/L		Land	RPCH	me/L
	Lithium	BPQL mg/L		Lithtum		mg/L		Lithium	BPQL mg/L		Lithium	BPCJ	mg/L
0.003	Mercury	BPQL µg/L	0.002	Mercury		pg/L	0.003	Mercury	SPQL µg/L	0.002	Mercury	8PQ(L μg/L
5,5649	Molybdenum		6,44.04	Molybdenum		mg/L		Molybdenum	2,006 mg/L		Molybdenum	0.005	mg/L
APE	Selentum	BPOL mg/L	0.05	Selenium		mg/L	9.05	Selenium	SPQL mg/L	0.05	Selantum	BPQI	L mg/L
0.05	Thallium	BPQL mg/L	0.002	Thallium		mg/L	0.002	Theillum	SPOL mg/L	0.607	Thallium	#PC#	mg/L

			8/2/2018 Parameter	Tout	Result		8/23/2018 Parameter	Test	Result
7/19/2018 Parameter	Test	Result							
Radium 228	Redium 228	1.29 pCl/L	Radium 228	Redium 228	0.88	pCI/L	Redium 228		2.03 pCi/L
	Uncertainty +/-	0.495 pCI/L		Uncertainty +/-	0.38	pCI/L		Uncertainty +/-	oser peit
Radium 226		0.311 pCI/L	Radium 226	Radium 226	0.313	pCI/L	Redium 226	Radium 225	ti 48% pCi/t
Hadidiii 220	Uncertainty +/-	0.233 pCI/L		Uncertainty +/-	0.168	pCI/L		Uncertainty +/-	D.313 HUA
5 pci/l			S pC/L				s pci/		

MW04 Sample Data Sunymany

1/8/2019	Parameter	Result		4/17/2019	Parameter	Result	
	Chloride	107	mg/L		Chloride	126	mg/L
	Flouride	0.23	mg/L		Flouride	0.2	mg/L
	Sulfate	538	rag/L		Sulfate	369	mg/L
	TDS	1346	mg/L		TDS	1465	mg/L
0.006	Antimony	BPCL	mg/L	0.006	Antimony	BPQL	mg/L
0.01	Arsenic	erti	mu/L	0.01	Arsenic	WEGL	mg/L
2	Barlum	0.215	mg/L	2	Bartum	0.25	mg/L
0.004	Beryllium	BPQL	mg/L	0,004	Beryllium	BPQ1	mg/L
	Baron	0.085	mg/L		Boron	0,062	mg/L
E DOE	Cadmium	BPQL	mg/L	0.00%	Cadmium	H-PFAL	mg/L
	Calcium	317	mg/L		Calcium	393	mg/L
0.1	Chromium	BPQL	me/L	0.1	Chromium	6PQL	mg/L
	Cobalt	BPC)L	mg/L		Cobalt	BPQL	mg/L
	Lead	BPQL	mg/L		Lead	BPQL	mg/L
	Uthlum	BPC).	mg/L		Lithium	BPQL	mg/L
0,002	Mercury	BPQL	pe/L	6.003	Mercury	BPQL	MAL/L
	Molybdenum	0.006	mg/L		Malybdenus	0.005	mg/L
0.05	Selenium	BPQL	mg/L	0.05	Selenium	BPQL	mg/L
0.000	Thellism	1000	- Char	0.002	Thefilem	BDOL	me/I

9/12/2018 Parameter Test	Result	9/26/2018 Parameter Test	Result	1/8/2019 Parameter Test	Result	4/17/2019 Paremeter Test	Result
Radium 228 Radium 228	1.38 pCI/L	Radium 228 Radium 228	1.51 pCl/L	Radium 228 Radium 228	U.SSS PCI/L	Redium 22 Redium 22	1 12 pcl/L
Uncertainty +/-	□ 969 pCi/L	Uncertainty +/-	0.449 pCI/L	Uncertainty +/-	0.38 pCt/L	Uncertaint	0.374 pCI/L
Radium 226 Radium 225	0.507 pCi/L	Radium 226 Radium 226	BPQL pCt/L	Radium 226 Radium 226	0.345 pCI/L	Radium 22 Radium 22	D 36 pCi/L
Uncertainty +/-	0,294 pCI/L	Uncertainty +/-	4k292 pG/L		0.258 pCI/L	Uncertaint	0.388 pC/L
S pG/L		5 ptijt		S pil/L		5 pti/k	

Attaczynant Z MWOS Sample Data Burerrary

3/14/201	B Parameter	Result	4/3/2018	Parameter	Result		5/23/201	lő Parameter R	lesuft	6/14/201	B Parameter	Result
	Chloride	29.9 mg/L		Chlorida	79	mg/L		Chloride	25 mg/L		Chloride	24.5 mg/L
	Flouride	0.18 mg/L		Flouride	0.14	mg/L		Flouride	@ 15 mg/L		Flouride	0,15 mg/L
	Sulfate	159 mg/L		Sulfata	145	reg/L		Sulfate	144 mg/L		Sulfate	144 mg/L
	TDS	826 mg/L		TDS	830	mg/L		TDS	824 mg/L		TDS	867 mg/L
0.006	Antimony	BPQL mg/L	0.006	Antimony	BPQL	mg/L	0.006	Antimony	BPCIL mg/L	0.006	Antimony	BPCIL mg/L
0.03	Arsenic	BPCE mg/L	0.03	Arsenic	0.008	tig/£	0,02.	Arsenic	0 016 mg/t.	0.01	Arsenic	BPQL mg/L
2	Barjum	0.147 mg/L	2	Barlum	0.35	mg/L	2	Barium	0.16 mg/L	2	Barlum	0.142 mg/L
9,034	Beryllium	BPQI mg/L	0.004	Beryllium	SPOL	nug/L	0.004	Beryllium	BPQL mg/L	0.004	Beryfflum	BPC/L mg/L
	Boron	0.274 mg/L		Boron	0.24	mg/L		Boron	0.283 mg/L		Boron	0.247 mg/L
0.005	Cadraium	BPQL mg/L	0.005	Cadmium	9PQL	mg/L	8.005	Cadreium	SPOL mg/L	0,005	-Cadm(um	BPQL mg/L
	Calclum	202 mg/L		Calchim	22.7	me/L		Calcium	182 mg/L		Caldum	204 mg/L
1.0	Chromium	BPOL mg/L	0.3	Chromium	BPQL	mg/L	0.1	Chromium	8PQL mg/L	0.3	Chromlum	SPOL mg/L
	Cobalt	BPQL mg/L		Cobalt	BPQL	mg/L		Cobalt	SPQL mg/L		Cobalt	SPOL mg/L
	Lead	BPQL mg/L		Lead	BPQL	mg/L		Lead	BPQL mg/L		Lead	BPOL mg/L
	Lithlum	SPOI mg/L		Lithium	EPQL	rog/L		Lithium	BPQL mg/L		Lithlum	BPOL mg/L
0.002	Mercury	BPGE pg/L	0.800	Mercury	BPQL	ME/L	0.092	Mercury	BPQL Mg/L	0.002	Mercury	BPQL µg/L
	Molybdenum	BPQL mg/L		Motybdenum	BPQL	mg/L		Molybdent	BPQL mg/L		Molybdenum	BPQL mg/L
0.05	Selentum	BPCIL mg/L	0.05	Sefenisom	BPQL	rng/L	0.05	Selenturn	BPOL mg/L	0.05	Selenium	BPQL mg/L
0.002	Thalllum	BPQL mg/L	0.002	Thallium	SPOS	mg/t	0,002	Thallium	8PQL mg/L	0.002	Thellium	BPQL mg/L

5/23/2618 Parameter Test	Result	6/14/2018 Perameter Test	Result	6/27/2018 Parameter Test	Result
Radium 228 Radium 228	1.12 pCi/L	Redium 228 Radium 22	8 BPQL pCI/L	Radium 228 Radium 228	8POL pCI/L
Upcertainty +/-	8.597 pC/L	Uncertaint	y+/- 0.546 pCi/L	Uncertainty +/-	0.378 pCi/L
Radium 226 Redium 226	BPQL pCI/L	Radium 226 Radium 22	6 BPQL pCI/L	Radium 226 Radium 226	BPCIL pCI/L
Uncertainty +/-	0.341 pCi/L	Uncertaint	y+/- 0.211 pCi/L	Uncertainty +/-	Ø5:0 pCI/L
S eCVA		S COLLET		3 103/4	

Note: Radium samples not available for first two sample events (3/14/18 & 4/3/18), therefore additional samples were taken to make up the related eight (6) samples.

Attaclment 2 MW06 Bengle Data Summary

6/27/201	8 Perameter	Result	7/19/2018 Parame	ter Result	8/2/2018 Parameter	Result	8/23/2018 Paramete	r Result
	Chloride	24.5 mg/L	Chloride	28.8 mg/L	Chloride	24 reg/L	Chloride	29.2 mg/L
	Flouride	0.16 mg/L	Flouride	0.12 mg/L	Houride	0.13 mg/L	Flourida	0.24 mg/L
	Sulfate	148 mg/L	Sulfate	147 mg/L	Sulfate	148 mg/L	Sulfate	135 mg/L
	TDS	877 mg/L	TOS	839 mg/L	1105	894 mg/L	TDS	831 mg/t.
0.006	Antimony	BPQL mg/L	0.006 Antinoo	my BPQL mg/L	0.006 Antimony	BPQL mg/L	0.006 Antimony	
0.01	Arsenic	0.0005 mg/L	0 01 Arsenic	RPQ1 mg/L	0.01 Arsenic	RPQ) mg/l	0.03 Arsenic	SPOL mg/L
2	Barlum	0.175 mg/L	2 Berlum	0,153 mg/L	2 Bartum	0.152 mg/L	2 Berium	0.154 mg/L
0.004	Beryllium	BPQL mg/L	0.004 Beryillu	m BPQL mg/L	0.004 Beryllban	BPQL mg/L	0.004 Beryflium	
	Boron	0.279 mg/L	Boron	9.751 mg/t	Baron	0.265 mg/L	Boron	0.295 mg/L
CLECK	Cadmium	BPQL mg/L	2.00% Cadmius	m BPQL mg/L	U.OCS Cadmium	BPQL mg/L	6.905 Cadmium	
	Calcium	207 mg/L	Calcium	303 mg/1	Calchim	100 mg/L	Calclum	194 me/L
0.5	Chromium	BPQL mg/L	0.1 Chromb	um BPQL mg/L	0.1 Chromium	BPOL mg/L	6.1 Chromium	
	Cobalt	BPQL mg/L	Cobalt	BPQL mg/L	Cobalt	BPQL mg/L	Cobalt	BPOL me/L
	Lead	BPQL mg/L	Lead	BPQL mg/L	Lead	BPQL mg/L	Lead	BPC1_mg/1_
	Lithlem	BPQL mg/L	Lithium	BPQL mg/L	Lithium	BPCL mg/L	Lithium	BPQL mg/L
9.007	Mercury	BPQL pg/L	8 600 Mercury	BPQL pg/L	1 002 Mercury	BPQL µg/L	0.002 Mercury	BPOL ME/L
	Molybdenum	2 003 mg/L	Molybde	enum 0.005 mg/L	Molybdenum	0.005 mg/L	Molybden	
0.05	Selenium	BPQL mg/L	0.05 Selentur	n BPQL mg/L	0.05 Selenkim	BPQL mg/L	0.05 Selenium	SPOL mg/L
0.002	Thalitum	REPORT mails	0.0032 Theflury	BPOL me/L	0.007 Thailium	BPOL mg/t	C.CCP Theilines	BDOL me/L

7/19/2018 Parameter	Test	Kesur	8/2/2018 Parameter Test	Result	8/23/2018 Parameter Test	Result
Radium 228	Radium 228	RFG1 pCI/L	Radium 22 Radium 22	£ 88* pCi/L	Redium 228 Redium 228	SPQL pCI/L
	Uncertainty +/-	0.42 pCi/L	Uncertaint	0.382 pCI/L	Uncertainty +/-	0.402 pCI/t
Radium 226	Radium 226	BPQL pCI/L	Radium 22 Radium 22	8 708 pCI/L	Redium 226 Redium 226	0.221 pCI/L
	Uncertainty +/-	0-10 pCi/L	Uncertaint	0.350 pCI/L	Uncertainty +/-	0.23 pCl/L
Si pCI/L			s priji		9 pC1/2	

9/12/2018

Attachment 2 MW05 Sample Data Security

1/8/2019	Parameter	Result		4/17/2019	Parameter	Result	
	Chloride	39.0	mg/L		Chloride	23.8	mg/L
	Flouride	0.16	mg/L		Flouride	0.17	mg/L
	Sulfate	139	mg/L		Sulfate	149	mg/L
	TDS	723	mg/L		TDS	844	mg/L
0.006	Antimony	BPOL	mg/L	0,006	Antimony	BPOL	mg/l.
0.61	Arsenic	PPUL	mg/L	0.01	Amenic	Spell	mg/L
2	Bartum	0.159	mg/L	2	Barium	0.146	mg/L
E-064	Beryfitum	BPOL	mg/L	0.004	BeryElum	8PQL	mg/L
	Boron	0.221	mg/L		Boron	0,212	mg/L
0.006	Cadmium	BPQL	mg/L	6.005	Cadmium	8PQL	mg/L
	Celcium	199	mg/L		Celcham	136	eng/L
0.1	Chromium	apqı	mg/L	0.1	Chromitum	BPQL	mg/L
	Cobalt	HP FM	mg/L		Cobait	BPQL	mg/L
	Lead	BPQL	mg/L		Lead	BPQ1	me/L
	Lithium	BPQ).	mg/L		Lithium	BPOL	mg/L
0.002	Mercury	BPQL	μg/L	0.003	Mercury	BPQL	pg/L
	Molybdenum	BPOL	mg/L		Molybdenun	BPQL	mg/L
0.05	Selenium	BPQL		0.05	Selenium	BPQL	
0.002	The filtre	DOM:	mall	0.002	The Bires	4004	mall

Parameter '	Test	Result	9/26/2018 Perameter	Test	Result	1/8/2019 Parameter	Test	Result	4/17/2019 Parameter Test	Result
Radium 228	Redium 228	1.62 pCI/L	Radium 228	Redium 228	0.797 pCI/L	Redium 228	Redium 228	BPQL pCI/L	Radium 22 Radium 22	RPQL pG/L
	Uncertainty +/-	1.06 pCI/L		Uncertainty +/-	0.368 pCi/L		Uncertainty +/-	0.427 pCI/L	Uncertaint	0.415 pCI/L
Redium 226	Radium 226	0.643 pQ/L	Radium 226	Redium 226	BPQL pCI/L	Redium 226	Radium 226	BPQL pCI/L	Radium 22 Radium 22	SPOL oCI/L
	Uncertainty +/-	0.329 pCI/L		Uncertainty +/-	0.215 pCI/L		Uncertainty +/-	0.117 pCl/L	Uncertaint	0.195 pC/L
5 pt3/L			5 pCi/1			Socia.			S pCI/L	



Attachment 3

Multi-Purpose Well Completion and Plugging Report

P.O. Box 321 N. Harvey Oklahoma Chy, Oklahoma 73101-0321 405-553-3000 2009-000-000



November 8, 2016

Rachel Hannigan
Land Protection Division
Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677

RE: Muskogec Generating Station Groundwater Monitoring Well System

Ms. Hamigan:

On September 26, 2016, OG&E Electric Services installed a groundwater monitoring system at the Muskogee Generating Station for the CCR surface impoundment located on site. This system has been installed in accordance with OAC 252:517-9-2.

Additionally, the monitoring wells were constructed in accordance with OAC 252:517-7-3. The Multi-purpose well completion & plugging report that have been stamped by a PE registered in the State of Oklahoma have been included in this submittal.

If you have any questions concerning this submittal please contact me by either my office (405-553-3349) or cell phone (405-708-9964).

Sincerely,

Tad Dow

Staff Envirochemist

Enclosures :



MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oldshous Water Resourcer Board 3800 North Chasen Buslevard Oklahema City, OK 73118 Telephone (485) 539-8800

	1		
	X		
-	-	-	

WELL ID NUMBER: 177060 Section 22 Township 15N Range 1981

Latitude 35,7638394 Longitude _-95,2789297

Data collected (latitude and longitude), if different from date the well was drilled:

Method latitude and longitude was collected: <u>GPS - moorrecand data</u>

County Muskores

Variance Request No. (if applicable) _n/a

WELL OWNER - NAME AND ADDRESS

Each square is 10-acres

Well Owner OGE Brenzy Corp.

Address/City/State 5501 Three Forks Rd. Fort Gibson OK

Phone

2ip <u>74434</u>

Finding Location 5501 Three Forks Rd. - appears 150 northeast of NEC of former evaporation pond

Well Name MW-1

Water Rights #:

TYPE OF WORK: Monitoring Well

USE OF WELL: Site Assumption

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 09/26/2016

Number of wells or borings represented by this log _1

* (Borings are within the same 10 sore-tract and with the same general depths and lithologies)

Hole Diameter 8.25 inches to a depth of 20 ft.

CASING INFORMATION *Note: If surface camp is used please indicate that on the appropriate well casing information line Surface Pipe Material. ____ fit to ___ fit 1) Well Casing Material PVC Casing Dismeter 2 inches Casing From 0 ft to 9.2 ft

SCREEN OR PERFURATION INFORMATION

Type of Screen: PVC: Type of Slots or Openings: Factory Slotted - 10 slot (0.010 inch) From 9.2 ft to 19.2 ft.

Quarters SE-SE-NW

FILTER PACK INFORMATION

Pilter Pack Material: Medium Sand

Fifter Pack Interval:

From 7 ft to 20

WELL SEAL INFORMATION

Type of Surface Seal _ Coment Grout_

Type of Annular Seal Bentonite Granules/Chins

Filter Pack Seni Material _n/a_

Surface Seal Interval: From 0 ft to 1 ft

Annular Seal Interval: From 1 ft to 7 ft

Filter Pack Seel Interval: From _n/a_ft to_n/a_ft

TYPE OF COMPLETION: Above Ground

HYDROLOGIC INFORMATION

Depth to water at time of drilling 11.1 ft

Estimated yield of well ___gpm

Pirst water zone __ft

LITHOLOGY DESCRIPTION

	ENCOUNT	TERED	
MATERIAL	FROM	TO	SATURATED
Lean Clay, it bee w/ red to him to red w/ it ben,	, a	20	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTION

Has this well been disinfected after completion of work? No

PLUGGING INFORMATION

Date Well or Boring Was Plugged n/a

Total Depth of well being plugged __ ft.

Was the well contaminated or was it plugged as though it was contaminated? _n/e_

If the well or buring was plugged as if it was comminated, was the casing removed or perferated? _n/a_

Was the grout tremied n/a

Backfilled with _ n/a_

Grouted with _n/a

Grouted with _Coment_

Backfilled from ___ft. to ___ft.

Grosted from __ft. to __ft.

Grouted from __ft. to __ft.

Firm Name GSI ENGINEERING LLC

Operator Name AUDIE THORNBURG

D/PC No. _DPC-0385 OP No. _OP-1847





MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Board 3600 North Classes Boulevard Oklahoma City, OK 73118 Telephone (405) 530-8800

Legal Location North	7		WELL ID	NUMBER: 1770
	Quarters NW-NB-SW	Section 22	Township 15N	Range 1981
	Latitude _35.7612256	I	ongitude <u>-95.2804497</u>	<u>.</u>
- x	Date collected@affinde and lo 09/26/2016	ngitude), if differe	of from date the well w	van drilled:
	Method latitude and longitud	c was collected: _	GPS - appropriented data	-
q—One Mile——» Each square is 10-ecres				

County Musicoges Variance Request No. (if applicable) _n/a WELL OWNER - NAME AND ADDRESS Well Owner OGE Energy Corp. Phone ___ Address/City/State _5501 Three Porks Rd. Fort Gibson OK. Zip <u>74434</u> Finding Languion 5501 Three Forks Rd - approx. 125 S, 275 W of SEC of former evaporation pend Well Name MW-2 Water Rights #:

USE OF WELL: Site Assessment TYPE OF WORK: Monitoring Well

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 09:26/2016

Number of wells or borings represented by this log _____ * (Borings are within the same general depths and lithologies)

Hole Diameter <u>8.25</u> inches to a depth of <u>25</u> ft.

CASING INFORMATION "Note: If surface casing is used please indicate that on the appropriate well casing information line Surface Pipe Material: ___ Surface Pipe Diameter ___inches Surface Pipe From ___ fit to ___ fi 1) Well Casing Material PVC Casing Diameter 2 inches Casing From 0 ft to 7 ft

SCREEN OR PERFORATION INFORMATION

Type of Sarsen: PVC Type of Slots or Openings: Factory Slotted - 10 slot (0.010 inch) From 7 ft to 17 ft.

FILTER PACK INFORMATION

Filter Pack Material: Medium Sand

Filter Pack Interval:

From 6 ft to 17

WELL SEAL INFORMATION

Type of Surface Scal <u>Coment Grout</u>

Type of Annular Seal Bentonite Granules/Chips

Filter Pack Seel Material n/a

Surface Seal Interval: From _0 ft to _1 &

Annalar Seal Interval: From _1 ft to 6 ft

Filter Fack Scal Interval From n/a fit to n/a fi

TYPE OF COMPLETION: Above Ground

HYDROLOGIC INFORMATION

Depth to water at time of drilling 6.1 ft

Estimated yield of well ___ gpm

First water zone __ft

LITHOLOGY DESCRIPTION

a Print all the section of the secti	ENCOUNT	ENCOUNTERED		
MATERIAL.	FROM (ft.)	TO (fL)	SATURATED	
cen Clay, ben to cik ben, w/ sand at 10-14	1 0	10	N	
Oltyrey Sand, It-bim	16	20	N	
can Clay, bm	20	25	N	

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTION

Has this well been disinfected after completion of work? No

Are than any potential sources of pollution or wastewater lagrooms within 300 ft. of the well? Y Distance of Well is 101-300 fteet from possible source. Type of possible source: Other

PLUGGING INFORMATION

Date Well or Boxing Was Plugged _p/a

Total Depth of well being plugged __ ft.

Was the well contaminated or was it plugged as though it was contaminated? _n/a_

If the well or boring was plugged as if it was contaminated, was the casing removed or perforated? _n/a_

Was the grout tremied? n/a

Backfilled with _n/a_

Grouted with n/a

Grouted with _Cement_

Backfilled from ____ ft. to ____ ft.

Grouted from __ ft. to __ ft.

Grouted from ___ ft. to ___ ft.

Pirm Name GSI ENGINEERING LLC

D/PC No. DPC-0885

Operator Name AUDIE THORNBURG

OP No. OP-1847

Comments: Water level rose higher than expected; screened interval moved up from 15-25 to 7-17. Borehole filled with sand and native material from 17 to TD (25).





MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Board 3800 North Ciasson Boulevard Oklahema City, OK 73118 Telephone (405) 539-8899

Legal Location North

One Mile Each square is 10-scres WELL ID NUMBER: 17761

Section 22 Township ISN

Range 1981

Letitude 35,76123

Quarters NW-NB-SW

Longitude _-95.2823442

Data callected firstitude and longitude), if different from date the well was drilled: 09/27/2016

Method latitude and longitude was collected: <u>GPS - uncorrected data</u>

County Musicogee

WELL OWNER - NAME AND ADDRESS

Well Owner OGE Energy Corp.

Address/City/State 5501 Three Forks Rd. Fort Gibson OK

Finding Location 5501 Three Forks Rd. - approx. 150 S. 25 E of SWC of feature evaporation pond

Well Name MW-3

TYPE OF WORK: Monttering Well

Variance Request No. (if applicable) n/s

Phone _

Zip <u>74434</u>

Water Rights #: ___ USE OF WELL: Site Assessment

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed <u>09/27/2016</u>

Number of wells or borings represented by this log 1.

(Boxings are within the same 10 acre-tract and with the same general depths and lithologies)

Hole Diameter 8.25 inches to a depth of 20 ft.

CASING INFORMATION *Note: If surface casing is used please indicate that on the appropriate well casing information line.

Surface Pipe Material __ Surface Pipe Diameter __ inches Surface Pipe From __ fs to __ ft

1) Well Coring Material PYC Casing Diameter 2 inches Coaing From 0 ft to 10 ft

SCREEN OR PERFORATION INFORMATION

Type of Screen: PVC Type of Slots or Openings: Factory Stotted - 10 slot (0.010 inch) From 10 ft to 20 ft

FILTER PACK INFORMATION

Filter Pack Material: Medican Sand

Filter Pack Interval:

From 8 ft to 20

WELL SEAL INFORMATION

Type of Surface Seal Coment Grout

Type of Annular Seni Bentonitz Granules/Chips

Pilter Pack Scal Material _n/a

Surface Seal Interval; From 0 ft to 1 ft
Annular Seal Interval; From 1 ft to 2 ft
Filter Pack Seal Interval; From _n/a ft to n/a ft

TYPE OF COMPLETION: _Above Ground _

HYDROLOGIC INFORMATION

Depth to water at time of drilling 11.9 ft

Estimated yield of well __gpm

First weter zone ___ft

LITHOLOGY DESCRIPTION

	ENCOUN		
MATERIAL.	FROM (ft.)	TO (fb)	SATURATED
ean Clay, it bm to dk ben, w/ sand below 4	0,	8	N
Clayey Sand, it bra	8	20	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTION

Has this well been disinfected after completion of work? No

Art that any potential sources of pollution or wastewater lagoons within 300 ft, of the well? Y
Distance of Well is 101 - 300 feet from possible source. Type of possible source: Other

PLUGGING INFORMATION

Date Well or Boring Was Plugged _n/s_

Total Depth of well being plugged __A.

Was the well contaminated or was it plugged as though it was contaminated? _ n/a

If the well or boring was plugged as if it was contaminated, was the casing removed or perforated? __n/a_

Was the grout tramied? _11/a_

Backfilled with _________

Grouted with _n/a_

Grouted with Coment

Backfilled from ___ft. to ___ft.

Grouted from __ ft. to __ ft.

Grouted from ___ft. to ___ft.

Firm Name GSI ENGINEERING LLC

Operator Name _AUDIE THORNBURG

Date 11/02/2016

Commonts: n/a

D/PC No. <u>DPC-0385</u> OP No. <u>OP-1847</u>





MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Beard 3800 North Classer Boulevard Oklahema City, OK 73118 Telephone (405) 530-8808

Legal Location

North * One Mile Each aquare in 10-acres

Section 22 Townskip 15N Quarters SE-SW-NW Range 19E1

Latitude _35,7622439

Longitude _-95,283205

WELL ID NUMBER: 177063

Date collected(latitude and longitude), if different from date the well was drilled:

Method latitude and longitude was collected: GPS - uncorrected data

County Muskosses

Variance Request No. (if applicable) n/a

WELL OWNER - NAME AND ADDRESS

Wall Owner OGE Energy Corp.

Phone

Address/City/State _5501 Three Forks Rd. Fort Oibson OK

Zip 74434

Finding Location _SS01 Three Forks Rd. - spector, 200 N, 225 W of of SWC of former evaporation pand

Water Rights #;

Well Name MW-4 TYPE OF WORK: Monitoring Well

USE OF WELL: Site Assessment

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 09/27/2016

Number of wells or borings represented by this log _1 * (Borings are within the same 10 sore-tract and with the same general depths and lithelogies)

Hole Diameter 8.25 inches to a depth of 20 ft.

CASING INFORMATION *Note: If surface easing is used please indicate that on the appropriate well casing information line. Surface Pipe Material: ___ Surface Pipe Dismeter __ inches Surface Pipe From ___ fi to ___ fi 1) Well Casing Material PVC Casing Diameter 2 inches Casing From 0 ft to 10 ft

SCREEN OR PERFORATION INFORMATION

Type of Screen: PVC Type of Slots or Openings: Factory Slotted - 10 slot (0.010 inch) From 10 ft to 20 ft.

FILTER PACK INFORMATION

Filter Pack Meterial: Medium Sand

Filter Pack Interval:

Prom 8 ft to 20

WELL SEAL INFORMATION

Type of Surface Scal <u>Coment Grunt</u>

Type of Annular Seal <u>Bentunite Granules/Chips</u>

Surface Seal Interval: From 0 ft to 1 ft
Annular Seal Interval: From 1 ft to 8 ft

Filter Pack Seel Meterial n/a

Filter Pack Seal Interval: From _n/a_ft to_n/a_ft

TYPE OF COMPLETION: Above Ground

HYDROLOGIC INFORMATION

Depth to weeer at time of drilling 11.9 ft

Estimated yield of well ___ gpm

First water zone __ft

LITHOLOGY DESCRIPTION

	ENCOUNT		
MATERIAL	PROM (ft.)	TO (fL)	SATURATED
Clay, it has to han, w/ sand below 4	0	8	N
et Clay, dk ben		12	N
ent Clay, box	12	20	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTION

Her this well been disinfected after completion of work? No

Are than any potential sources of pollution or wastewater lagoons within 300 ft. of the well?

Distance of Well is 101 - 300 first from possible source. Type of possible source: Other

PLUGGING INFORMATION

Date Well or Boring Was Plugged _ m/s_

Total Depth of well being plugged __ ft.

Was the well contaminated or was it plugged as though it was contaminated? __o/a_

If the well or boring was plugged as if it was consuminated, was the casing removed or perforated? _n/a

Was the grout tremled? _n/a_

Backfilled with _0/a_

Backfilled from ____ft. to ____ft.

Grouted with _2/a_

Grouted from ___fl. to ___fl.

Grouted with Cement

Grouted from __ft. to __ft

Fine Name GSI ENGINEERING LLC

Operator Name AUDIR THORNBURG

D/PC No. DPC-0385

Date 11/02/2016

Comments: 1/8

OP No. OP-1847





MULTI-PURPOSE WELL COMPLETION & PLUGGING REPORT

Oklahoma Water Resources Board 3800 Nurth Chasen Bonlovard Oklahoma Chy, OK 73118 Telephone (405) 530-8800

North					
	++	-			
-		-			
T		1			
		North			

WELL ID NUMBER: 177064

Section 22 Township 15N Range 1981

Letitude <u>35.7629086</u> Longitude <u>-95.2839653</u>

Date collected(latitude and longitude), if different from date the well was drilled; _09/27/2016_

Method latitude and longitude was collected: <u>GPS - uncorrected dete</u>

County Musicage

Variance Request No. (if applicable) _n/q_

WELL OWNER - NAME AND ADDRESS

Bach square is 10-acres

Well Owner _OGE Preset Corp.

Phone ____

Address/City/State 5501 Three Forks Rd. Fort Gibson OK

Zip <u>74434</u>

Finding Location 5501 Three Forics Rd. - approx. 450 N. 475 W of SWC of former evaporation pend

Well Name MW-5

Water Rights #: ___

TYPE OF WORK: Monitoring Well

USE OF WELL: Site Assessment

NEW WELL CONSTRUCTION DATA

Date Well or Boring Was Completed 09/27/2016

Number of wells or borings represented by this log _______

* (Boxings are within the same 10 acre-treet and with the same general depths and hinologies)

Hole Diameter 8.25 inches to a depth of 20 ft.

CASING INFORMATION *Note: If surface casing is used please indicate that on the appropriate well casing information line.

Surface Pipe Material: ____ Surface Pipe Diameter ___ inches Surface Pipe Prom ___ ft to ___ ft

1) Well Casing Material PVC Casing Diameter 2 Inches Casing From 0 ft to 10 ft

SCREEN OR PERFORATION INFORMATION

Type of Screen: PVC Type of Slots or Openings: Fautory Slotted - 10 elet (0.010 insh) From 10 ft to 20 ft

Quarters SE-SW-NW

FILTER PACK INFORMATION

Pilter Pack Material: Medium Sand

Filter Pack Interval:

From 7.5 ft to 20

WELL SEAL INFORMATION

Type of Surfitoe Seal _Coment Grout

Type of Annulus Seal Bentonite Granules/Chips

Filter Pack Scal Material _n/a_

Surface Seal Interval: From _0 ft to _1 ft

Annualar Seal Interval: From _1 ft to _1/5 ft

Filter Pack Seal Interval: From _n/a ft to _n/a ft

TYPE OF COMPLETION: Above Ground

HYDROLOGIC INFORMATION

Depth to water at time of drilling _12.4_ ft

Estimated yield of well ___ gpm

First water some ___ft

LITHOLOGY DESCRIPTION

	ENCOUN		
MATERIAL	FROM (fL)	TO (ft.)	SATURATED
Lean Ciny, it ben to ben, w/ sand below 4	a	12	N
Clevey Send, bm	12	16	N
Len Chy, bm	16	20	N

WELL LOCATION TO POTENTIAL SOURCES OF POLLUTION

Has this well been disinfected after completion of work? No

Are then any potential sources of pollution or wastewater lagorns within 300 ft. of the well? Y
Distance of Well is 301 - 1320 feet, from possible source. Type of possible source: Other

PLUGGING INFORMATION

Data Well or Boring Was Plugged _p/a

Total Dopth of well being plugged __ ft.

Was the well contaminated or was it plugged as though it was contaminated? _n/a

If the well or boring was plugged as if it was contaminated, was the casing removed or perforated? <u>n/a</u>

Was the grout tremled? _n/a_

Backfilled with _n/a_

Grouted with n/a

Grouted with Cement

Backfilled from ____ft. to ____ft.

Grouted from __ ft. to __ ft.

Growted from __ft. to __ft.

Finn Name _GSI ENGINEERING LLC_

Operator Name AUDIE THORNBURG

Date 11/02/2016

Comments: n/a

D/PC No. <u>DPC-0385</u> OP No. <u>OP-1847</u>

